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APRIL, 1909.

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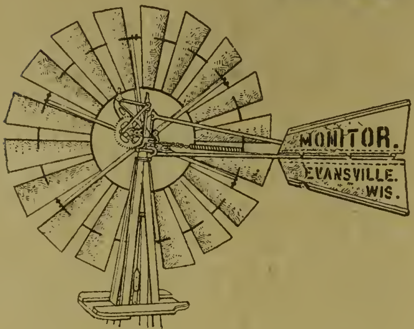

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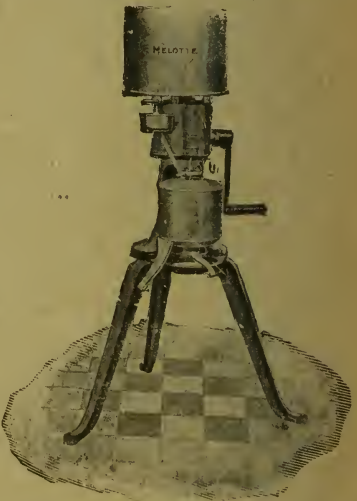

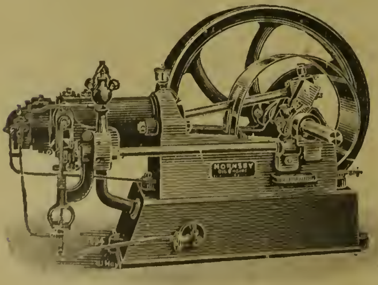

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L. O'LOUGHLIN,
Minister of Agriculture.

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Points for Producers.

The Country Land Boom.

The rise in the value of farming-lands during the past few years has been remarkable, and the "retired farmer" is now a personage frequently met with, not only as a resident of Adelaide and suburbs but also of country towns. Fertilizers and good seasons are the usual explanations of the boom, and no doubt this view is correct, for there has been little if any increase in the value of town properties, in spite of the increased demand for dwelling-houses. A few instances of the rise in country lands will be of interest to our readers:—Hundred of Booyoolie, 600 acres, sold thirty years ago for £2 10s. per acre; fifteen years later for £4 7s. 6d.; and this year half the property has been sold at £25 per acre. This very high price is due to the whole of the land growing fine crops of lucerne. In the same hundred 700 acres were sold twenty years ago for £2 5s., four years ago for £4 1s., and eighteen months ago for £5 18s. per acre. Farms on the Gulnare Plains have changed hands recently at £9 to £10 per acre, and about Laura and Jamestown at £7 to £8. Another farm with 700 acres of rather poor soil in the Hundred of Booyoolie was originally selected at 25s. per acre, afterwards sold for £2, and about a month ago for £7 5s. Hundred of Crystal Brook—640 acres sold at £4 per acre in 1905, £7 refused to-day; 350 acres sold at £4 5s. in 1905, sold in 1908 at £6 10s. Hundred of Dalkey—800 acres sold at £4 15s. in 1905, part of this land fetched £8 per acre in 1909, and the balance is held for a higher price. Hundred of Alma—600 acres sold in 1907 at £6 10s, £8 refused to-day. These are merely typical instances, the increases being perhaps most marked in the "Northern Areas," but the same results are visible on York Peninsula, in all the well-watered lands eastward of the Hummocks towards the Burra and Kapunda, and southwards towards Gawler and the city. All these high prices are indicative of solid agricultural prosperity, but it is probable that in some instances buyers have gone beyond the values which are justified from a strictly commercial point of view.

Helping Land Settlement.

With the desire of helping to settle unoccupied Crown lands and to assist farmers and producers already on the land, two Royal Commissions are busily at work enquiring into the advisability of constructing four lines of railway. One of the proposed lines, that to Willunga, is an old friend. If constructed it will run through the oldest settled part of the State, and the chief questions to be solved are: Will the amount of produce and passengers to be carried over it pay working expenses and interest, and then which route is the best? The other three lines are advocated to open up new country—the Kangaroo Island railway; a railway to Loxton, on the River Murray; and another on Eyre Peninsula, or an extension of the existing line from Port Lincoln. In two of these cases—the Loxton railway and the Eyre Peninsula railway—the rainfall will probably be an important factor in whatever decision is arrived at. Very favourable reports have been received of the quality of the land towards Loxton and at Weedina, in the new County of LeHunte, in the centre of Eyre Peninsula, and it remains to be determined whether the country can be profitably farmed on a presumably light rainfall, and to what extent the railway is justified to secure that end. The Department of Agriculture is likely to be of assistance in connection with the Kangaroo Island railway. There is a large area of unutilized land on the island, and opinions vary as to its productive capacity. In some localities, particularly on the north coast and in the river flats, splendid yields have been obtained, but the greater part of the island is yacca country, with ironstone rubble on the surface and a clay subsoil. Very little cultivation has been done on this land, but this year it is proposed to test it in several localities on lines laid down by the Department of Agriculture. The results from these tests will be looked for with great interest.

The Butcher Bird.

Mr. F. D. Bladon, of Belalie North, writes:—"I notice in *The Agricultural Journal* an enquiry *re* the butcher bird and its habits. I have lived for seventeen years within the habitation of the butcher bird in New South Wales, and as a lover of this bird for his sterling qualities strongly advocate that he should be protected and reared more numerously for the destruction of sparrows. It was suggested by one writer that probably he would destroy the insectivorous birds, such as the robin, swallow, wagtail, etc. No, he will not kill these, as I have seen them existing in the butcher bird's habitation, and they were more plentiful than in South Australia, where there are no butcher birds. The bird, if treated kindly, is extremely docile, and will frequent the house and partake of food from the hand. As a whistler the butcher bird (male) cannot be surpassed. I am sure if this bird were given a trial his worth would be found invaluable. I can assure the fruitgrower that the butcher bird is his friend and not a foe. I have never known him to be in a garden except chasing other birds."

Stone-gathering Machine.

A public trial of stone-gathering machines entered for the bonus of £100 offered by the Government will be held some time in August.

Entries must be made to the Department of Agriculture, where all particulars can be obtained, not later than July 1. Several inventors have intimated their intention of entering machines for this trial.

Export of Plums to England.

Last January at the request of the Commercial Agent Mr. W. L. Summers, of the Agricultural Department, secured and packed several trays of Burbank, Climax, and Wickson Japanese plums for shipment to London. These fruits were carefully packed in single-layer trays (three trays cleated together forming a case), and were carried in the cool stores of the s.s. "Waratah" of the Lund Line and the "Ormuz" of the Orient Line of steamers. The Commercial Agent reports that the Climax plums arrived in splendid condition; the Wicksons were somewhat irregular, but a large proportion was in prime order; while the Burbanks were all useless. It is rather curious that although the latter plum is if anything firmer than the others, it does not keep well in cold storage. On two occasions the Department of Agriculture has experimented with it, and we believe Californian tests have also been made with similar results.

Early Australian Sheep.

It is curious and interesting to note that the early official reports from Australia described the country as unsuitable for sheep, and fit only for cattle-breeding. This was chiefly due to the fact that the first importation of sheep was from the Cape of Good Hope, and the animals were of a very inferior description, and gave a poor account of themselves in the new land. The first return of live-stock, published in 1788, shows that the total number of sheep in Australia was 29.

Imports and Exports of Fruits and Plants.

During the month of February the Inspectors under the Vine, Fruit, and Vegetable Protection Act of 1885 admitted 2,480 bushels of fresh fruits (chiefly bananas), and destroyed 40 bushels of overripe bananas; 35 parcels of plants, 7,371 bags of potatoes, and 358 bags of onions were also admitted. The exports of vegetables to interstate markets amounted to 3,316 packages, and of fresh fruits 8,442 bushels, also 22 packages of plants. The oversea exports under the Commerce Act were 15,386 cases of fresh fruits, 389 cases of honey, 40 bushels of preserved fruit, and 3 packages of plants. These were consigned as follows:—For London, 3,131 cases apples and 389 cases honey; for Germany, 7,851 cases apples, 268 cases pears, and 3 cases grapes; for New Zealand, 45 cases pears, 3,223 cases grapes, and 3 packages plants; for India and East, 836 cases apples, 29 cases grapes, and 40 bushels preserved fruit. During March the Inspectors admitted at Adelaide 5,784 bushels of fresh fruit, 9,307 bags of potatoes, and 62 packages of plants from interstate sources. At the same time 316 bushels of fruit were destroyed, being overripe. The exports to interstate markets consisted of 8,706 bushels of fruit, 18 packages of plants, and 3,504 packages of vegetables. Under the Commerce Act 48,882 bushels of fresh fruit, 152 packages of preserved fruit, 222 packages of dried fruit, 191 packages of honey, and 1 case of plants were exported. These were consigned as follows:—For London, 26,010 bushels apples, 6,196 bushels pears, 74 bushels grapes; for Germany, 11,024 bushels apples, 560 bushels pears, 73 bushels quinces; for New Zealand, 3,240 bushels grapes, 51 packages preserved and dried fruit; for India and East, 120 bushels grapes, 1,570 bushels apples, 15 bushels pears, and 102 packages preserved fruit.

Roseworthy Agricultural College Scholarships.

The Minister of Agriculture has received from the Principal of the Roseworthy Agricultural College the results of the scholarship examinations held in March. This was the first occasion since the establishment of the scholarships that there were country candidates in each of the six districts to which scholarships are allotted. Fourteen candidates presented themselves for examination—seven in District I., one in District II., one in District III., two in District IV., one in District V., and two in District VI. Local candidates were successful in each one of the several districts, and only two candidates failed to qualify—one in District I. and one in District IV. The scholarships have been awarded as follows:—District I., George Clarke Love, 77·7 per cent.; parents' residence, Strathalbyn; last school attended, Prince Alfred College. II., Rowland Hill, 80·7 per cent., Littlehampton, Hahndorf College. III., George Ives, 50·8 per cent., Port Lincoln, Port Lincoln Public School and St. Peter's College. IV., Frank Howard Snook, 67·1 per cent., Wallaroo, Moonta Public School; Sydney Harold Thomas Best, 57·7 per cent., Gawler, Gawler Public School; John Douglas Hoile, 73·0 per cent., Petersburg, Petersburg Public School.

Broken Bones in Horses.

A popular notion exists that broken bones in the horse do not mend readily, and that a fractured leg-bone constitutes a hopeless case, consequently the animal is consigned to the knacker or destroyed. It should be known that the bones of a horse unite, when fractured, more readily than do those of a man, and that some skill and a little care and more patience will in many cases be rewarded with an excellent recovery, and the animal made as useful as ever. Even in bad fractures of certain bones of the limbs, recovery will take place, and though the horse may not be absolutely free from lameness afterwards, yet in the case of a valuable stallion or mare this is not of so much importance, as the animal can be well utilized for breeding purposes. The indiscriminate use of the pole-axe or bullet is a most regrettable blunder in many cases.—*Town and Country Life.*

Hints from Spain.

In an interesting article on "Irrigation in Eastern Spain," appearing in the March number of *The Victorian Journal of Agriculture*, Mr. F. de Castella writes:—"I do not think there is an edible vegetable known to us in Australia which is not largely cultivated, and in addition one meets with some which we usually look upon as curiosities rather than as regular articles of diet, such as they are in Spain. Among those which interested me most is the egg-plant *(Solanum melongena).* This botanical relation of the tomato, called in Spanish *berengena*, though not unknown to us, is not cultivated nearly so extensively as it merits. In Mediterranean countries it supplies enormous quantities of excellent, wholesome food for rich and poor. It is the large purple variety which is generally preferred. Cooked in various ways, it constitutes a most palatable vegetable, meriting more attention than it receives with us. Melons of various kinds are largely consumed in Spain, especially the *Valenciano* or Valencia melon, of which several varieties exist. These melons are dark-green outside, with firm, sweet, white flesh. They are very wholesome, and stated not to disagree with children even. It is strange that these melons should be practically unknown to us. They constitute an important article of food in Spain. They ripen late, and can be kept through the greater part of the winter."

Washington Whitewash.

This is an excellent wash for house-roofs or elsewhere. If properly made it will neither wash off nor rub off, and has the appearance of paint. It is so named from the fact that the "White House" at Washington, the official residence of the President of the United States, is coated with it. The formula is as follows:—Slake a bushel of quicklime in a barrel, covering with a bag while the lime is working; melt 1 lb. of common glue to a thin size; make 1½ lb. of ground rice into a thin paste with boiling water; mix up 1 lb. whiting as you would mustard. When the lime is quite slaked, add the glue, whiting, and rice-paste and a half-peck of common salt. Mix well and let stand for 48 hours, keeping covered. Thin down to consistency of ordinary whitewash, and apply hot.

Enquiry Department.

Any questions relating to methods of agriculture, horticulture, viticulture, dairying, etc., diseases of stock and poultry, insect and fungoid pests, the export of produce, and similar subjects, will be referred to the Government experts, and replies will be published in these pages for the benefit of producers generally. Enquiries received from the question-boxes established by Branches of the Agricultural Bureau will be similarly dealt with. All correspondence for this department should be addressed to "The Editor, *The Journal of Agriculture*, Adelaide."

Road Metal and Fruit-trees.

"G. J. R.," Nairne.—Mr. Quinn says:—"In reply to your question I advise that the coating of metal should be removed from the surface as far as possible, as it would evidently prevent tillage. Although sufficient moisture might be retained beneath the metal to meet the requirements of the trees, it is more than likely that the lack of aeration in the soil would prove detrimental to the trees in the long run. A covering of metal or asphalt, such as is used in street-paving, has the same effect of retaining moisture, but there is abundant evidence that it is not suitable for the roots of trees when confined beneath the continuous surface."

"Hedypnois Polymorpha."

"T. T. S.," Salisbury.—The plant you send is *Hedypnois polymorpha*, very common near Adelaide, and spreading rapidly in many places. It is a weed of Mediterranean countries, and has therefore no British name. We can find no European record regarding its qualities as a fodder plant, but it is closely allied to several other *Compositæ* which afford good feed.

Keeping of Butter.

"Enquirer," Lake Leak, writes:—"I am working up a dairy farm. Last winter the butter was really good, but the last few months it goes bad very quickly. We don't mix the cream until it is cold, and every care is taken with the separator and utensils; the feed is good grass. There is a pepper-tree overhanging the dairy, which has been flowering a good deal—do you think the tree the cause of the trouble? Are carrots considered good for dairy cows?"

Mr. P. H. Suter (Dairy Expert) replies:—"I cannot say for certain what the cause is unless I have fuller particulars. In any case butter will not keep long on farms on account of the higher temperatures during the last few months. Again, it may be that the churnings are not frequent enough, but that creams of all ages and stages of maturity are mixed and churned weekly; if this is so, good-keeping butter will not be produced. The pepper-tree in flower would certainly taint the cream if in close proximity. I should recommend churning every second or third day, providing the cream is at a temperature of, say, 50 to 56 deg. F. A lower temperature would be better, but that is impossible on a farm. Mix salt at the rate of 4 ℔. per 100 ℔. of butter, and preservative at the rate of $\frac{1}{2}$ ℔. per 100 ℔. of butter."

Tuscan Wheat and Pickling.

"L.B.," Penola, writes:—(1) "Is White Tuscan a good milling-wheat?" (2) "How much bluestone to the gallon of water is used for pickling wheat?" (3) "Is the bluestone bought at country stores safe to use?"

Answer.—"(1) White Tuscan is a good milling-wheat, though not what is called a strong flour wheat. (2) If the seed is pickled on the floor dissolve about 4 oz. of bluestone in $\frac{3}{4}$ gallon water and sprinkle it over the wheat. If the wheat is to be pickled by dipping dissolve about 1$\frac{1}{2}$ ℔. of bluestone in 10 gallons of water. (3) It is not easy to say whether the bluestone bought at country stores is reliable, but so far as we know most of it is all right. If the bluestone is in good crystals of a deep blue colour the purchaser may feel reasonably certain that it is not adulterated."

Manures for Limestone Soil—Average Rainfall 30 Inches.

"L. B.," Penola, writes:—"What is the best wheat manure for limestone soils—average rainfall 30 inches?"

Answer—"It is not possible to give a definite answer to this question, as a great deal depends on the surrounding circumstances. We would, however, expect to find the non-acid supers give a better return with a 30-inch rainfall than the purely mineral or acid super, and would suggest trying Bone Super, Super B., or the specially prepared Wheat Manure. Good results in such soils might be obtained by mixing equal quantities of P.E.D. Bone Manure and Mineral Super."

Pruning Sultanas.

"A. W. L."—Professor Perkins replies to your question:—"My own personal experience with this vine is somewhat limited. Some years back I was able at the College to get very heavy crops of Sultanas, pruned on the Sylvoz Cordon—that is to say, with a long horizontal arm, 2 ft. from the ground, carrying rods tied down to a wire below the arm every 12 in. These vines were eaten out by white ants, and I have not had personal opportunities of observing Sultanas since. It is certain, however, that they need to be rod-pruned and given sufficient space for good development. I understand that growers at Mildura and Renmark have within recent years been very successful with Sultanas. Would it not be advisable to ascertain what systems of pruning they have followed?"

CEREALS FOR FEED.

"W. H. N.," Booleroo, asks:—1. "Which will grow the most feed—land with the stubble on it or land where the stubble has been burnt off and nothing sown on it?" 2. "Which will grow the most feed—wheat, barley, or oats? Which sort of wheat is the best to sow for stock on hay stubble?" 3. "What sort of wheat-straw will stock eat best?"

Reply:—"1. Stubble land will under ordinary circumstances grow the most feed. The stubble gives shelter to the young grass, while burning will undoubtedly destroy a lot of seeds on the surface of the ground. 2. Cape barley, sown very shallow, will probably give the earliest and the most feed. It is not possible to say which wheat is best for greenfeed, as everything depends upon the district. A quick-growing, 'flaggy' wheat should be grown. 3. We would be glad to hear from readers on this point. The straw of some wheats is much preferred by stock to others; Jonathan may be mentioned as one."

ALLENDALE STATION, OODNADATTA.

Production in South Australia.

Statistics for 1907.

A great deal of valuable information as to the production of the State is contained in Part III. of the Statistical Record for 1907, which has just been laid before the Chief Secretary and Minister of Industry (Hon. A. A. Kirkpatrick, M.L.C.) by the Government Statist (Mr. L. H. Sholl). In order to supply the detailed information required by the Commonwealth Statistics Act new collecting-forms were used, and the amount of information given is far greater than in past years. The work of collecting was performed by the mounted constables, under the supervision of their inspectors. A prefatory report, carefully prepared by Mr. W. L. Johnston, Chief Clerk, summarizes the voluminous returns, and from this report the following items are extracted:—

Machinery and Hands Employed.

Each producer was called upon to estimate the value of all his plant and machinery, due allowance being made for depreciation. As a result it has been possible to arrive at a fairly accurate estimate of the value of capital invested in this way. The total estimated value is £1,782,215, divided as follows:—

Used mainly in general agriculture	£1,492,389	£1,782,215
,, orchards, etc.	95,117	
,, dairying	67,557	
,, pastoral pursuits	118,242	
,, travelling machinery, such as chaff-cutters and threshing machines	8,910	

The Department had frequently been asked for particulars of the labour employed in our primary industries, and in order to obtain reliable information the collectors were instructed to make careful enquiry as to the persons employed. The proprietor, manager, and all regular hands were included, and as many of the family as assisted, but temporary hands engaged in shearing, etc., and domestic servants and cooks were not included. In the case of mixed farming, where a person is engaged in several branches of farm work, he has been counted under the principal one engaging his time. The returns show that 49,910 persons (37,036 males and 12,874 females) were deriving constant employment on the land—cultivating, 33,737; dairying, 9,877; and pastoral, 6,296.

The following table shows how the labour is distributed according to the several divisions of the State:—

Division.	Cultivating.		Dairying.		Pastoral.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Central ...	15,805	2,078	1,002	3,970	1,113	247	17,920	6,295
Lower North ...	6,343	573	153	1,571	881	117	7,377	2,261
Upper North ..	3,149	741	203	1,278	661	132	4,013	2,151
South-Eastern ...	2,515	168	371	1,300	1,535	241	4,421	1,709
Western ...	2,111	254	5	24	273	64	2,389	342
Outside Districts	—	—	—	—	916	116	916	116
	29,923	3,814	1,734	8,143	5,379	917	37,036	12,874

CULTIVATION.

The area under crop in the Commonwealth in 1907-8 aggregated 9,320,890 acres, showing an average of 2·23 (2·32)* acres per head of the population. In proportion to population South Australia has the largest area under crops—2,265,017 (2,157,235) acres—forming nearly one-fourth of the whole, being 5·77 (5·62) acres per head. New South Wales, 1·63 (1·85) per head; Victoria, 2·59 (2·68) per head; Queensland, 1·02 (1·05) per head; Western Australia, 1·90 (1·76) per head; and Tasmania, 1·40 (1·36) per head.

South Australia—erstwhile the granary of Australia—has practically been built up by production of cereals; for a number of years, however, the farmers have also engaged largely in other branches of husbandry, devoting more attention to grazing, sheep-breeding, dairying, and kindred occupations, rendering themselves less and less dependent on wheat production. For example, up to the time of the drought many more cattle and sheep were kept on farms in the Lower and Upper North than there had been before the lands were thrown open to agricultural settlement, districts which ordinarily supply two-thirds of the whole wheat crop. In 1907-8 the area cultivated (including 1,008,733 (1,065,921) acres of fallow land) within the counties was 3,308,385 (3,246,835) acres, and the sheep kept 5,898,703 (5,715,413), the total number of sheep in the State being 6,829,637 (6,624,941), a total increase of 204,696.

Farmers who were also sheep-breeders and graziers had profitable returns from the produce of their sheep, and in every division but one flocks have increased. The exports of wool for 1907 totalled 50,639,368 ℔. (41,771,682 ℔.), valued at £2,100,067 (£1,561,664).

Two million twenty-four thousand eight hundred and twenty-two acres were under wheat, 271,067 of which were cut for hay, against 1,984,770 and 298,396 cut for hay in the previous season.

At the Observatory the total rainfall for 1907 was 17·782 in., as compared with 20·495 in. (the average for forty-seven years), being 4·35 in. above the driest year (1876) and 13·09 in. below the wettest year (1889).

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* Figures in parentheses refer to the previous year.

FERTILIZERS.

Not many years ago the use of artificial manures was, except to a few, unknown on farms. This year particulars were collected as to the acreage so treated and the manures used. The returns show that last season 1,555,153 acres were treated with 60,000 tons of superphosphates, bonedust, etc., and 18,700 acres with 124,092 loads of stableyard and other natural manures. The Inspector of Fertilizers estimates that for each of the previous ten years the following quantities of artificial manures have been used for cereal crops:—1897, 3,000 tons; 1898, 12,500 tons; 1899, 16,500 tons; 1900, 24,600 tons; 1901, 31,400 tons; 1902, 37,500 tons; 1903, 44,500 tons; 1904, 52,000 tons; 1905, 56,500 tons; 1906, 59,000 tons.

WHEAT CARRIED FORWARD.

For the first time an effort was made to ascertain the amount of the previous season's wheat carried forward on December 31, 1907. The returns collected from millers and farmers gave a total of 2,400,000 bushels of wheat, either in the grain or as flour. As no account was taken of the quantity held in stock by bakers and stores, the aggregate given is well below the mark. Including the carried forward the exportable surplus for 1908 was estimated to be not less than 17,800,000 bushels.

WHEAT YIELDS, RAINFALL, AND PRICES.

A table showing the results of wheat-growing in the State since 1861 gives some interesting figures. The following are a few typical seasons, both good and bad:—

Season.	Acres.	Bushels.	Yield per Acre.	Adelaide Rainfall.	Average Port Adelaide.
			bushels.	inches.	Price.
1861	310,636	3,410,756	10·98	25·19	4/8
1863	335,758	4,691,919	14·00	22·92	8/6
1876	1,083,732	5,857,569	5 40	13·43	6/9
1896	1,693,045	2,804,493	1·66	15 17	5/3
1898	1,788,770	8,778,900	4·91	20·75	2/11
1906	1,686,374	17,466,501	10·36	26·51	3/8
1907	1,753,255	19,135,557	10 91	17·78	3/11

GOYDER'S RAINFALL LINE.

The mean average yield for the six seasons (1902-7) within the rainfall line was on area sown and reaped 9·81 and 10·21 bushels respectively, and beyond the line on area sown and reaped 5·72 and 6·281 respectively. In 1907-8 the area of wheat within the line was 1,257,813 acres, producing 14,957,229 bushels, or an average of 12·03 bushels per acre; beyond the line, 501,942 acres, producing 4,178,328 bushels, averaging 8·57 bushels per acre.

HAY.

The total of hay of all kinds is given at 376,170 tons from 328,672 acres, averaging 1·14 tons per acre. Wheaten hay (the only line for which we have previous records) yielded 315,857 tons (398,866) from 271,067 acres, averaging 1·17 tons per acre against 1·34 tons; oaten, 50,753 tons from 48,151 acres, averaging 1·05 tons per acre; barley, 1,547 tons from 1,588 acres; lucerne, 4,324 tons from 3,767 acres; and unstated, 3,446 tons from 3,912 acres.

BARLEY AND OATS.

The acreage under barley and oats is the highest on record in the State. The Central, South-Eastern, and Western divisions contributed chiefly to the substantial increase. Malting barley has this year been distinguished from other kinds of barley grown, the production of malting barley being 383,057 bushels out of a total of 566,937 bushels, the increase on barley of all kinds being 75,691 bushels. The averages per acre were:—Malting barley, 16·51; other barley, 13·02; total, 15·19. The area under oats for grain was 66,297 (57,000), an increase of 9,297 acres. The average yield was 13·19 bushels (15·72 bushels) per acre, the total reaped being 874,388 bushels (896,166 bushels).

GREEN FODDER.

The total area either cut for fodder or fed off is given at 15,434 acres, the chief being lucerne, with 9,411 acres; 13,565 tons were cut for green fodder, the value of which, including the value of the area fed off, being estimated by the growers at £23,866. In addition a large area was sown with natural grasses of a permanent character, the acreage so planted having increased from 23,679 to 34,635 acres.

HORTICULTURE.

Orchards.—Total area, 20,736 (18,199) acres, divided as follows:—14,772 acres reached bearing age and 5,964 not reached bearing age. Bush and berry fruits, it is estimated, covered 874 acres of the total shown.

Our fruit industry has made very rapid progress during the past few years, and hence information respecting many new lines has been collected for the first time. In the table on page 750 the total fruit production is shown, and approximately the number of trees:—

Trees.	Number.	Production.
Almonds	218,417 (199,413)	6,568 (7,010) cwt.
Apricots	224,870	148,726 bush.
Apples	800,154 (755,930)	467,293 (311,538) bush.
Cherries	80,627	53,984 bush.
Pears	94,103	51,734 bush.
Plums	139,360	93,240 bush.
Oranges	167,937 (161,300)	137,143 (114,150) bush.
Lemons	54,271 (65,955)	42,717 (37,378) bush.
Peaches and Nectarines	147,070	71,283 bush.
All other trees, berry and bush fruits	—	Value £34,076

Dried Fruits.	Production.	Dried Fruits.	Production.
	cwt.		cwt.
Apricots	4,946	Peaches	1,150
Apples	823	Plums and Prunes	822
Currants	19,858 (14·361)	Raisins	24,488 (16·123)
Pears	399		

VITICULTURE.

Area bearing, 19,415 acres; not reached bearing age, 1,665 acres; total area, 21,080 acres. The total area is divided as follows:—For wine-making, 13,747 acres; table use, 1,819 acres; and for drying, 3,849 acres.

The total grape production amounted to 26,005 tons, or an average of 1·34 tons per acre. Of this total it is estimated that 15,261 tons were used in making 2,061,987 gallons of wine, 7,939 tons for drying purposes, and 2,805 tons for table consumption and export; 24,488 cwt. (16,123 cwt.) of raisins, an increase of 8,365 cwt.; and 19,958 cwt. (14,361 cwt.) of currants, an increase of 5,597 cwt., were produced. With reference to currants it is desirable to explain that the previous year's figures of production have been revised, it having been ascertained that certain growers had for several years filled in their returns as hundredweights when pounds were intended.

The tabulated statement on page 751 shows for a period of ten years the quantity of wine made, in stock, and exported, and also the quantity of locally-distilled spirits produced.

In 1898 the locally-grown wine reported in stock was 3,717,951 gallons; it is now returned as 4,641,622 gallons. The wine export for the year 1907 reached 737,664 gallons, an increase of 174,845 gallons, or 31 per cent. The recorded export value was £120,393, which gave an average of 3s. 3d. per gallon: in the previous year the shipment was

Year of Vintage.	Wine Made.	Wine in Stock.	Wine Exported.	Value.	Spirits Made.	Excise Duty Collected.
	galls.	galls.	galls.	£	galls.	£
1898	1,263,998	3,717,008	514,065	78,381	94,045	11,195
1899	1,342,960	3,896,307	496,610	77,773	123,302	12,930
1900	2,258,285	3,521,637	476,646	78,153	122,214	13,807
1901	2,813,301	4,215,936	595,853	92,418	172,728	15,897
1902	2,631,563	5,027,754	846,721	124,916	143,980	22,480
1903	2,573,424	5,535,694	561,830	94,660	201,407	28,221
1904	2,445,270	5,700,000	686,159	107,573	282,929	32,136
1905	2,845,853	5,304,236	718,660	103,138	306,314	31,594
1996	2,755,947	5,400,498	562,819	99,247	335,412	33,398
1907	2,495,434	5,392,245	737,664	120,393	398,300	54,596
1908	2,061,987	4,641,622	—	—	—	—

valued at £99,247, or 3s. 6d. per gallon. I estimate the average annual consumption of wine as a beverage in this State to be 1·85 gallons per head.

DAIRYING.

During the past three years the quantity of butter made has been well over 8,000,000 ℔. annually. The value of the butter exported during 1907 was given at £112,739 (£103,171), or an increase of £9,568.

Butter, Bacon, and Cheese Factories.—There are 10 bacon and 57 butter and cheese factories in the State, the latter being described as 34 butter, 8 butter and cheese, and 15 cheese factories. These employ 263 hands—248 males and 15 females. They possess machinery estimated to be worth £28,718, the power of the engines (full capacity) being 458 h.p. In these factories 11,323,912 gallons of milk were used in making 4,631,773 ℔. of butter and 1,416,281 gallons for making 1,381,947 ℔. of cheese. In addition, bacon and hams were cured to the extent of 1,225,623 ℔.

Butter-, Bacon-, and Cheese-making on Farms.—It is not generally known that nearly all the separating is done on farms. As a matter of fact, only 776,801 gallons of milk out of a total of 11,323,912 gallons used in factories were treated in butter factories, the balance—10,547,111 gallons—having been separated on farms, and the cream sent to factories; 9,877 hands (1,734 males and 8,143 females) are reported to be engaged on farms in connection with dairying. Of course it is recognized that the greater number of these hands are also engaged in many other duties as well. The value of plant and machinery used on farms is estimated to be worth £61,809; 6,057 separators are in use; 10,828,446 gallons of milk were used in making 3,887,567 ℔. of butter, and 4,437 gallons in making 3,843 ℔. of cheese. In addition, bacon and hams were cured to the extent of £1,085,381 ℔.

Summary of Factories and Farms.—Total number of dairy cows, 100,743; hands employed, 10,140 (1,982 males and 8,158 females); value of plant and machinery used, £90,527; 22,152,358 gallons of milk used in making 8,519,340 lb. of butter, and 1,420,718 gallons for making 1,385,790 lb. of cheese. In addition, bacon and hams were cured to the extent of 2,311,004 lb.

FLOCKS AND HERDS.

	Horses.	Cattle.	Sheep.	Pigs.	Goats.	Other Stock.
I.—Central Division	85,805	106,105	1,367,041	49,545	2,805	56
II.—Lower North	47,642	42,670	1,541,152	15,703	1.028	29
III.—Upper North	21,560	46,419	778,317	10.799	1,289	642
IV.—South-Eastern	23,618	53,673	1,701,475	10,048	268	536
V.—Western	13,709	10,507	501,718	4,255	444	591
Total Counties	192,334	259,374	5,898,703	90,350	5,334	1,854
Remainder of State... ..	16,305	75,297	930,934	391	7,594	3,538
Grand Totals, Dec. 31, 1907	208,634	334,671	6,829,637	90,741	13,428	5,392
,, Dec. 31, 1906	206,633	325,724	6,624,941	111,240	14,317	5,446
Increases	2,006	8,947	204,696	—	—	—
Decreases	—	—	—	20,499	889	54

SHEEP AND WOOL.

The following table shows the number of sheep, the number of pounds of wool exported, the average per sheep, the declared value and rate per pound at port, and also the London price of average Adelaide greasy wool for the last ten years.

Year.	Sheep.	S.A. Wool Exported.		Value Declared at Port		London Sales' Prices (Average Greasy).
		Total	Per Sheep	Total.	Per Pound.	
	Number.	lb.	lb.	£	d.	d.
1898	5,012,620	35,118,644	7·01	945,589	6·46	8·00
1899	5,667,283	37,386,313	6·60	1,511,693	9·71	12·00
1900	5,235,220	33,277,660	6·36	1,003,391	7·24	7·50
1901	5,012,216	37,530,720	7·49	1,029,063	6·58	7·00
1902	4,880,540	34.168,346	7·00	1,061,809	7·46	8·50
1903	5,298,720	39,281,604	7·41	1,326,236	8·10	8·00
1904	5,820,301	37,530,200	6·45	1,367,473	8·74	8·50
1905	6,277,812	40,784,613	6·40	1,491,943	8·78	8·75
1906	6,624,941	41,771,682	6·31	1,561,564	8·97	9·08
1907	6,829,637	50,639,368	7·41	2,100,067	9·95	9·40

The Government Dairy Farm.

The organization of the Government Dairy Farm at Turretfield, near Gawler, which was purchased in July of last year, has been proceeding during the past few months under the control of Mr. P. H. Suter. A herd of choice Shorthorns has been obtained from some of

A Bend in the River, Turretfield.

the best breeders in Victoria and New South Wales. Some of the heifers bought from Mrs. P. Churnside, of Werribee, Victoria, are derived from imported stock bred by Lord Rothschild, who is the owner of one of the finest herds of milking Shorthorns in the world. It is expected that within a year or two the farm will have bred several Shorthorn bulls from the best strains, which will be available for the use of farmers throughout the State. Two Shorthorn bulls are already out on hire—one in the Quorn district, and the other at Rendelsham, in the South-East. The Ayrshire bull of the stud is in service at Messrs. James Brothers, at Woodside. Turretfield also possesses the bull "Black Antimony," which was presented by Mr. A. J. Murray, and has taken

Group of Shorthorn Heifers.

Turretfield with Shorthorn Cows in Pasture.

many champion prizes in England, as well as at Adelaide Shows. Mr. Murray also gave the farm a very fine-quality Jersey heifer. Twelve pure-bred Jerseys have been purchased in South Australia to mate with the bull.

It is Mr. Suter's intention to keep about 70 per cent. of Shorthorns, there being the greatest demand for this breed of cattle among our dairy farmers. There are also a few good Ayrshire cattle, bought from Messrs. Selman Bros., Ferntree Gully, Victoria. The stud includes a Guernsey bull, kindly lent by Mr. Coleman, of Saddleworth. The Guernsey breed has come into considerable prominence in England, and especially in America, during the last few years, largely on account of their power of adapting themselves to varied climatic conditions and their heavy yields of rich milk. The Guernsey-Shorthorn cross has given excellent results in New South Wales, and cattle with a strain of Guernsey blood realizes good values among dairymen. The Government of New South Wales has made a further importation from England of this valuable cattle, having found the demand for it very considerable. "Pansy," one of the Jersey-Shorthorn-crossbred cows at Turretfield, has yielded 48 ℔. of milk, showing a percentage of 5·6 per cent. butter-fat, producing equal to 20 ℔. of commercial butter per week.

"PANSY," A JERSEY-SHORTHORN COW.

Water has just been laid on to the Government Dairy Farm from Barossa, and a small area of five acres has been suitably graded and piped for growing green crops for milch cows, such as lucerne, maize, and sorghum Milking-sheds, pigsties, etc., will be built at once, so as to provide not less than 30 bails and 12 sties, together with suitable yards. Some of the buildings on the property will be converted into a cheese, butter, and bacon factory, and every facility will be given for teaching the best methods in the various branches of dairying. In order to provide ensilage a fine crop of wheat and oats was grown last year, the yield being about ten tons to the acre. This year it is proposed to grow special crops for the silo, and to conserve at least 400 tons, so as to maintain the milk-yielding properties of the herd in the dry part of the summer and in midwinter.

There is a good dwelling-house on the Turretfield farm, and it is intended to take in from six to ten students for a special course in dairying. The Para River traverses the property, and within 150 yards of the house is a bend, where the river forms a permanent natural swimming bath. A great deal of work has been done since the place was taken over from its former owner, and still more has to be accomplished; but with good land, a fair rainfall, and a water supply for irrigation, there is every facility for soon converting it into a model dairy farm.

"JOURNAL OF AGRICULTURE."

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Roseworthy Agricultural College.

Distribution of Diplomas and Prizes.

The annual distribution of diplomas and prizes at the Roseworthy Agricultural College for the year 1908-9 took place on Tuesday, March 16. The Hon. L. O'Loughlin (Minister of Agriculture) presided, and besides a large number of parents and friends of students, there were also present:—Mrs. O'Loughlin, Mr. S. B. Rudall, M.P., Mr. E. H. Coombe, M.P., Messrs. J. Miller, G. Jeffrey, T. N. Hardy, and C. Willcox (members of the Advisory Board of Agriculture), Mr. W. L. Summers (Secretary to the Advisory Board), and Mr. D. F. Laurie.

Annual Report.

The Principal (Professor Perkins) read his annual report as follows:—

This is the fifth time that has fallen to me the honour of reporting on results achieved at the Roseworthy Agricultural College, and I can safely add that on no previous occasion have I taken up the task with greater pleasure or with greater pride. We esteem ourselves happy in the fact that from practically all points of view we are able to look back on the year that closes to-day as one of the most successful in our annals. The past season's crops, together with farming operations generally, have not, I think, in their returns been surpassed in the history of the institution. I think that on this point I cannot do better than quote the closing lines of a report which recently I issued in connection with these returns:—"The position is that a farm 1,430 acres in area, after carrying nearly 1,800 sheep and lambs, 600 head of cattle of all ages, from 150 to 200 pigs, and 54 horses, was able to produce in 1908 about 141 tons of cereal ensilage, nearly 300 tons of hay, 4,170 bushels of barley, 470 bushels of oats, and 5,751 bushels of wheat."

These lines may be amplified with the statement that notwithstanding the fact that much of our work is purely experimental, and as such more or less uncertain in its returns, our average yields per acre were on the whole very satisfactory. Thus, our cereal ensilage yielded about 7 tons 12½ cwt. to the acre; our hay crop about 2 tons 7 cwt.; our barley crops 44 bushels; our oats 22½ bushels; and our wheat 22 bushels 14 lb.

At the Spring Show of the Royal Agricultural Society we were again unusually successful in 1908. We were awarded three champion prizes: one for boar of any breed, one for sow of any breed, and one for Southdown ram. Both boar and sow were bred by us from the well-known College strains of Berkshire pigs.

During the past four years we have been giving ourselves diligently to the improvement of varieties of cereals which experience has taught us to be well adapted to this district. I am pleased to be able to state that a high degree of success has attended our efforts in this direction. We were able last year to distribute small quantities of our improved strains, and with these some growers have secured quite remarkable returns. Thus with King's Red wheat Messrs. Dawkins Bros. reaped nearly 50 bushels to the acre; whilst with Square Head barley Messrs. Day Bros. reaped 52 bushels to the acre, and Mr. S. A. Shillabeer 65 bushels at Islington. Our own results with these selected strains have been almost equally successful, although we did not reap more than 38½ bushels of wheat to the acre, and 51 of barley. In future years, apart from small plots of special varieties, our wheat crops will consist of none but our own selected strains.

The demand for these selected strains has proved exceptionally heavy since last harvest: indeed, to our regret we have found ourselves obliged to refuse many orders for these wheats. As matters stand, we have sold close on £1,000 worth of seed-wheat since the beginning of January. And as we propose continuing rigorously from year to year this work of selection, I do not anticipate in future years ever having any market-wheat left for sale.

I wish to draw your attention to the improvements that have been added to the institution since last year. The new chemical and biological laboratories are now completely equipped and ready for next session's work; I respectfully invite your inspection of them. I do not think that better equipped laboratories can be found in Adelaide; and apart from their usefulness for ordinary teaching purposes, we are looking forward to using them for research work in connection with the many agricultural problems of the State. The old laboratory will shortly, I trust, be converted into a technilogical museum, indispensable in all teaching institutions of this kind.

At the farm, a large machine-shed has been erected, and a shearing-shed in which, in addition to our own sheep, we hope to have the privilege of shearing those of our neighbours.

In the course of your inspection you will notice that the poultry industry continues to show progress, and is still further encroaching on the normal farm area.

We have also been supplied recently with an effective deep-drainage system connected with a large septic tank. And, finally, during the course of the past year, we have endeavoured in various ways to add slightly to the general attractiveness of our surroundings.

Before passing on to the main business of the day, I shall crave leave to make brief reference to one or two matters that affect the institution. A few weeks back I noticed that "the unpopularity of the institution" was publicly deplored, and that by inference it was suggested that thousands of students should be in attendance at the Agricultural College. Now, I must confess that such a statement surprised me not a little. It is not that I deprecate criticism, or claim for the institution anything like perfection. Indeed, I am of the opinion that it is only those institutions in which the public takes little or no interest that are not periodically subjected to criticism of some kind or other: it is those who are loved that are chastened. In my ignorance, however, I had imagined that never in its brief history had this institution been more popular or held in higher public esteem. This view of mine was based on the numerous visits of farmers and others in quest of information, visits far more frequent and numerous than was ever previously the case in the seventeen years of my connection with the institution; on the numerous letters that reach us from all portions of the State from those in need of advice on matters of general practice; on the eagerness with which our stud stock and seed-grain are sought after; and finally, on the fact that in no previous period of the history of the institution has there been a greater number of students in regular attendance. During the past four years the number of students on our roll has averaged sixty-one, which, although somewhat short of the thousands it is suggested we should cater for, will, I think, compare favourably with the average of any other boarding institution in Adelaide. It appears to have been overlooked that if we were invaded to the extent that it has been suggested we should need a township to house these teeming numbers, nothing short of a county to give them adequate manual training, and a private railroad to convey them to work every morning.

Personally, I am very strongly of the opinion that no Agricultural College in these States should ever be allowed to take into residence many more than 100 students at a time. If our colleges were conducted on the European model, in which students hear much of agricultural practice, see a little of it in fits and starts, but never take any personal share in any branch of it, we might be able to do justice to greater numbers than is at present possible. The circumstances that surround us, however, are such as to make it imperative that students leaving these institutions should not only carry away with them a good theoretical knowledge of general and special agricultural practice, but also that they should be thoroughy familiar with the various manual operations that go to make up this practice. Nor can such familiarity be acquired if the number of students in attendance is ludicrously out of proportion to the available working area of even a large farm.

Others again have found fault with us in that we do not undertake to familiarize young men with the intricate art of agriculture in the course of a few months. What we deem necessary to the general equipment of the successful agriculturist, they apparently look upon as superfluous and altogether unnecessary. To these I can only say that the mechanic cannot learn his trade except by an apprenticeship of four or five years, and a doctor or a lawyer must give up four or five years or more to his efficient training. Why then should it be thought possible that any young man, however diligent or bright, can be converted into a competent agriculturist by a few months' residence at an agricultural college? I think that we may claim that those who have laid down the foundations of our curriculum are trained educationists, thoroughly conversant with the special needs of those who desire to take up some agricultural calling, and you may rest assured that we provide here as good a theoretical and practical training as general circumstances admit of. After all, these complaints as to the range of our curriculum are no more than the dying kicks of that threadbare old fallacy that could see no advantage to the tiller of the soil of either education or training. Personally, I hold the view that the solitary agriculturist is in need of and entitled to as high an education and training as any man in the land; the foundations of a broad, liberal training have been laid down here in the past, and I shall ever refuse to be a party to lowering a standard from which such good results have already been secured.

I now have pleasure in drawing your attention to the principal business of the day. I may say that if we, of the College staff, have reason to be satisfied with the results of the year, students generally are entitled to equal, if not greater, satisfaction. This year's examination results are excellent, and I wish to extend my heartiest congratulations to all of those who took part in them.

Let me deal first with the results of the diploma examinations. First and foremost stands out the fact that Mr. W. R. Birks with a general average of 89·5 per cent. and Mr. L. S. Davie with a general average of 86·6 per cent. have both beaten all previous records. This is an achievement of which they may well feel proud, because, after all, amongst their predecessors there were many good men. In addition, Mr. Birks has secured honours in nine subjects out of eleven, and Mr. Davie in five out of ten.

Then there is the pleasing fact which speaks well for other students in the year, that the average for all diploma subjects is 71·9 per cent., or again the highest on our records. The previous record in this direction was 71·6 per cent., secured in 1906. Such results, as you may imagine, must be eminently satisfactory to teachers and students alike. Results of second and first year students are equally satisfactory, and augur well for the diploma average of future years.

Finally, in closing, I wish to express my personal satisfaction with the manner in which staff and students, each in their sphere, have contributed toward forwarding the general work of the institution. Personally, I shall carry none but pleasurable memories of the year that is past, and I trust that such may be the experience of all who have been associated with me over its course.

I cannot sit down, Mr. Minister, without expressing our acknowledgments of the great interest you have always taken in the institution. We feel that the State has placed us in important positions of trust, up to which, to the best of our abilities, we endeavour to live. I can assure you, however, that our task is always the lighter for the cheerful sympathy of the Minister under whom we work. This is the fourth time you have presided over our closing ceremonies; we trust that we may see you in the same position for many years to come.

PRIZE-LIST.

Mrs. O'Loughlin distributed the diplomas and prizes as follows:—

Third Year Students, 1909.

Diplomas (in order of merit).

First Class.—1. Walter Richard Birks, with honours in Agriculture, Viticulture, Veterinary Science, Fruit Culture, Œnology, Chemistry, Dairying, Wool-classing, and Aviculture. 2. Laurie Samuel Davie, with honours in Veterinary Science, Chemistry, Dairying, Wool-classing, and Aviculture.

Second Class.—3. Frederick John Kuhne, with honours in Aviculture. 4. Edward Leslie Orchard, with honours in Aviculture. 5. Arnold Cooper Sandland, with honours in Aviculture.

Third Class.—6. Evan Owen Brown.

PRIZES AWARDED.

Third Year.—1. Gold Medal (presented by the Royal Agrciultural and Horticultural Society), highest aggregate in all diploma subjects, Walter Richard Birks. 2. College Second Prize, Laurie Samuel Davie. 3. Old Students' Cup (presented by the Old Students' Association), highest aggregate in Agriculture and Veterinary Science, Walter Richard Birks. 4. Viticulture and Wine-making Prize (presented by Professor Perkins), Walter Richard Birks. 5. College Prize, best outside work, Laurie Samuel Davie.

Second Year.—1. College Silver Medal, highest aggregate in all subjects, Leonard John Cook. 2. College Second Prize, Geoffrey Erskine Wells. 3. Viticulture Prize (presented by Mr. H. Buring), Geoffrey Erskine Wells. 4. Agriculture and Farm Dairies Prize (presented by Professor Perkins), Leonard John Cook. 5. College Prize, best outside work, Geoffrey Erskine Wells.

First Year.—1. Silver Medal (presented by Mr. A. L. Brunkhorst), Norman Stewart Fotheringham. 2. College Second Prize, Stanley Charles Genders. 3. Book-keeping Prize (presented by the Hon. L. O'Loughlin, Minister of Agriculture), Norman Stewart Fotheringham. 4. Agriculture and Farm Dairies Prize (presented by Professor Perkins), Norman Stewart Fotheringham. 5. English Prize (presented by Mr. D. Menzie), Clarence Leslie Dunstone. 6. College Prize, best outside work, Rupert M. Wright.

Most Unselfish Sportsman (selected by the Students' Committees), Gold Medal (presented by Mr. D. Menzie), F. C. M'Loughlin.

The Minister of Agriculture congratulated the Principal and his staff, as well as the students, on the high results attained during the year, and he hoped for still greater progress in succeeding years. Messrs. E. H. Coombe, S. B. Rudall, J. Miller, and Geo. Jeffrey complimented the College on the work done in the past, and wished the institution further success in the future.

The Raisin Trade Abroad.

Reports from Spain and Asia Minor.

Some time ago Mr. Cutlack, the Secretary of the Renmark Packers' Union, wrote to the Agent-General asking for information respecting the packing, grading, etc., of raisins in Spain and other places. The Acting-Agent-General (Mr. J. B. Whiting) has forwarded to the Commissioner of Crown Lands replies obtained through the Under-Secretary of State for Foreign Affairs.

THE SPANISH RAISIN TRADE.

The following are extracts from a very complete report furnished by Mr. S. P. Cockerell, formerly Commercial Attaché for Spain:—

"Because Malaga is the centre for dessert raisins, its name is generally in England associated with Spanish raisins, while the existence of Denia is scarcely realized, except in the trade. Yet the export of raisins from Denia is far and away greater than that from any other Spanish port, and the export to England from the Valencia raisin ports, *i.e.*, Denia, Valencia, Javea, Gandia, and Alicante, represents well over 80 per cent. of the total imports into the British Isles.

"Denia, the centre of the scalded raisin production, is a small town of some 14,000 inhabitants, situated on the coast between Gandia and Alicante.

"There are no rivers at Denia, the land being all *secano*, or unirrigated, excepting small areas watered from wells by chain-pumps *(norias)*, and some land irrigated by spring-water collected several kilometres from Denia, besides that irrigated from the pumping-station of the Water Company, also a few kilometres outside Denia. The district of Denia is a large, flat plain some 15 kilometres wide by 20 deep, surrounded on three sides by rocky hills, and on the fourth washed by the sea; it is almost altogether devoted to vineyards, which push their way in terraced fingers to the very summits of the hills. Freights in 1906 to London and Liverpool averaged 17s. 6d. per ton, with 1s. to 2s. 6d. secret rebate, this pernicious system prevailing here, as in Valencia, without any effort being made to abolish it.

"The Denia raisin—better known as the Valencia raisin—is a Muscatel grape of the same class as the Malaga raisin. Malaga raisins are sun-dried—a process requiring some three weeks and specially prepared beds, and which entails a considerable loss of weight, besides some risk from inclemency of the weather and considerable expense. Denia raisins are prepared by scalding, a process requiring four or five days, and not attended by the other disadvantages of the Malaga process. The scalding is done by passing the grapes enclosed in a wire-basket through an iron cauldron filled with a hot mixture made by pouring boiling water through a mass of lime and ashes. The grapes are subsequently placed on cane-stick trays to dry. In size the Denia raisins are not inferior to those from Malaga, but the scalding process robs the fruit of its bloom, and makes the Denia raisin less suitable for dessert purposes; moreover, Malaga has a special skill in putting up dessert raisins in attractive style, and has acquired a reputation of which it would be difficult to deprive it. When Malaga was suffering from phylloxera, Denia packers began packing in Malaga style, *i.e.*, with clusters of sun-dried grapes, and have since continued on a small scale, especially in the village of Gata, whose farmers do a considerable business with France by visiting their clients personally and selling to retail grocers direct, and sometimes by applying the name of Malaga to their wares.

"Denia raisins (except when packed in Malaga style) are always packed off the stalk, while all Malaga raisins, and Denia raisins packed in Malaga style, are packed in clusters. The first cost, *i.e.*, the price paid to farmers for raisins dried in the Malaga style, is at least 25 pesetas (18s.) per quintal (of 52 kilogs., or 1 cwt.) above that paid for the Denia style of raisin. It is, therefore, hardly necessary to add that the London prices for Malaga raisins are considerably above those for Denia or Valencia raisins.

"Denia raisins differ from Sultanas in that they are larger and, as a rule, have seeds. Nevertheless, when Sultanas are scarce the Denia packers pack a special class of seedless raisins—a troublesome classification adding some 6 pesetas (4s. 3d.) per cwt. to the cost, and which high prices for Sultanas alone render remunerative. These seedless raisins are usually styled by shippers as 'seedless'; sometimes, however, they are called 'currants,' which they certainly are not, being merely the result of a more elaborate classification than usual of the Denia fruit.

"Thus it is seen that Turkish and Greek Sultanas do compete with Denia fruit; that is, when the crops of the former fail, better prices are obtained for the latter, and *vice versa*, but the price of Sultanas is considerably the highest. In the North of Europe, and especially in Germany, it is the Elemes raisin from Smyrna which most genuinely competes with the Denia raisin. But to the mind of the Dianenses the bitterest rivalry is that of the Californian raisins—originating from Spanish vine-cuttings introduced into America about 1880—which are rapidly killing in the country of their adoption the trade in the Denia raisin.

"The lines on which the business is conducted in the English markets are similar to those adopted in the orange trade. The fruit is bought from the farmers by packers, who send it in boxes on consignment, through agents or direct, to brokers, for sale by auction in the salerooms. In the raisin trade, however, brokers and packers have sufficiently controlled their transactions to cease making advances to the growers. Formerly brokers pursued the methods adopted in the orange trade, and packers also made advances of sulphur, manures, and money. Whether it is that English dried-fruit brokers' houses have been better able to control the competition between themselves, it would certainly appear that the business is conducted on sounder lines. One reason appears to be that the raisin trade is both a less remunerative and a riskier business than the green-fruit trade. In the orange trade advances are generally made on bills of lading, so that, although the packer to whom the advance is made is worth nothing in himself, the risk is limited, and the transaction is completed as soon as the fruit is sold, and the capital employed can be turned over several times in the season. In the raisin trade advances are made in the winter and are not liquidated till the late autumn, so that only one transaction can be done. Nowadays the only credit transactions are those of the local *banqueros* in the inland centres of Ondara, Gata, Vergel, and Pedreguer, who pack for farmers, consign the fruit, and recover their expenses and commission when the sales have been made—a further opportunity for secret rebates and the attendant evils. The older established *banqueros* in turn get advances from brokers and agents early in the year against an undertaking to consign their fruit to them in due season.

"As a rule, the fruit is scalded by the farmer and brought down in bulk for sale to packers in Denia, whither it is sent from the surrounding districts in carts or—when from the mountains—on muleback. In some cases the farmers themselves pack their fruit and sell to dealers in Denia or consign the fruit to agents on the foreign markets. This alternative is resorted to usually when packers are offering bad prices, and especially when a farmer has particularly fine fruit. It is in such business that the *banqueros* get their opportunity, and it may be observed that they have suffered much from the advent of the Co-operative Association of Dried-fruit Packers, whose members come from England every season and pack the very finest fruit, for which they pay good prices.

"The London and Liverpool business, which is the most important, is done almost entirely through brokers, while shipments to all other markets are made in execution of orders placed by buyers, either direct or through the packer's agent. Shipments are rarely made on consignment to Germany, where prices are bad, and the figures shown in the statistics correspond chiefly to direct orders. The leading Denia packers have commission agents in Canada (at Montreal); Denmark buys direct. As regards quality, the finest fruit is sent to London, which pays the best prices. Dublin is the only English market which buys the fruit packed in layers—a style chiefly taken by Canadian and American buyers. Denmark takes selected fruit. The United States market has almost disappeared, owing to competition from California, supported by the duty of 2½ cents per ℔., or 11s. 8d. per cwt. The Californian raisin also shows its effect in the Canadian market. No buyers have agents in Denia, and English buyers, as suggested above, usually prefer to make their purchases in the English auction-rooms.

"Denia raisins are packed in oblong boxes of 28 ℔. and 14 ℔., and increasingly in 7-℔. boxes, for the English market. The American market takes them packed in layers: four layers go to a box of 28 ℔. Each layer is enveloped in a sheet of thin paper, probably printed with the packer's name, and the top layer is contained in a fancy paper with gilding and coloured lithographs. These latter papers are bought chiefly in Malaga. In the ordinary packing the box is lined with a sheet of plain white paper. In every case a sheet of paraffin paper (imported from Germany) is placed directly over the top of the raisins, but this is being replaced by cheaper parchment paper made in the country.

"The grades of raisins are as follows:—Fine, off stalk, worth, say, 20s. per cwt.; finest, off stalk, 20s., plus 1s.; selected, 20s., plus 2s. 9d.; finest selected, 20s., plus 4s. 3d.; flor, fancy prices; layers, above prices, according to class, plus 6d.-9d. per cwt.

"The boxes are made of pinewood, and the approximate prices are:—Cost of 28-℔. boxes, 1·25 peseta (10½d.) for every four boxes; cost of 14-℔. boxes, 1·50 peseta (1s. 1d.) for every eight boxes. Under the Customs tariff wood cut ready for boxes can be temporarily imported duty free, provided it is re-exported within six months. In Denia there appears to be no difficulty in benefiting by this regulation. Planks pay 5 pesetas (3s. 7d.) per cubic metre. The timber used comes chiefly from Portugal, Galicia, Cette, and the Balearic Isles. Two principal firms have entered into partnership for working their own sawmills at Tuy, near Vigo. They import the timber from these mills already sawn into the necessary sizes and ready for nailing together. Each raisin box contains twenty nails of from 1 to 1½ in.

"One hanegada of land (about one-fifth of an acre) contains 220 vines, producing on an average 5 quintals of raisins. The average price of a quintal (or cwt.) may be taken as between 15 and 25 pesetas (11s. and 18s.), giving thus a gross revenue per hanegada of from 100 to 125 pesetas (£3 10s. to £4 8s., or about £17 to £21 per acre). The cost of cultivating a hanegada and putting the produce in the packer's warehouse is calculated at:—Wages, etc., 30 pesetas; manure, 20 pesetas; total 50 pesetas; or 10 pesetas (7s. 6d.) per quintal (cwt.) or raisins

(10 to 12 pesetas per quintal is considered the average). The value of raisin-growing land is estimated at 800 pesetas (£28) per hanegada (or about £134 per acre) for first-class land, while cultivated *monte*, or mountain land, may cost anything from 150 pesetas upwards.

"The ordinary labourer's wage is from 1·50 peseta (1s. 1d.) to 1·75 peseta (1s. 3d.) a day. The day is from sunrise to sundown. During the raisin season some 10,000 to 15,000 women come into the Denia district from other parts. Women's wages are:—Average day's wage, 1 peseta (8½d.); for picking off the stalks and classifying, 40 to 50 cents. per arroba (11½ kilogs.). At this work women can earn from 1 to 1·50 peseta per day; ordinary packing, 1 peseta per day; fancy packing and layers, 10 cents. per box; 2 pesetas to 3·50 pesetas per day can be earned. The charges on ordinary raisins in addition to the first cost of the fruit may be calculated per cwt. as follows:—Cost of packing, case, paper, 2·35; agency and port dues, 2·50 = 4·85 pesetas (3s. 6d.).

"Last year packers grouped cargoes in order to obtain more advantageous freights, but the arrangement was unsatisfactory, and the hostility between shippers on consignment and those shipping against orders will always make understandings in any other direction difficult. The only other example of successful combination has been between the agents and brokers in London, who have cornered the business during the last four years. Agents receiving fruit on consignment cannot now sell direct to buyers; the business must go through the brokers. In the same way brokers undertake to refuse to receive any consignments except through the agents. The shipper and the consumer are the sufferers by this arrangement for squeezing out commissions.

"There is no arrangement among the shippers or *banqueros* for holding back their shipments when the foreign markets are glutted. The result of this, combined with the system of shipping fruit on consignment to be sold for what it will fetch, leads to irregularity of prices and unnecessary losses. On the other hand, it must be borne in mind that the necessities of the London and Liverpool markets require that Denia raisins be sold before the Christmas season, in contrast with the more extended season of sultanas and currants.

"There is equally no agreement among the growers—often small landed proprietors—who buy their manures at long terms—each on his own account and presumably therefore at unnecessarily high prices—and who sell their fruit independently as best they can, without any combined attempt to keep the prices up. Packers, too, have been equally innocent of any combined attempt to keep the growers' prices down, except for an unsuccessful movement in that direction two years ago. It should, however, be said that if the farmers are not satisfied by the prices offered they have recourse to packing on their own account.

"As in the case of oranges, the bulk of the trade is with foreign countries—especially England—only a fraction of the production being taken by Spain itself. So much is this so with oranges that it is common to find the finer fruit in Madrid wrapped in tissue papers marked 'Best selected oranges,' or printed with some other English qualification of that kind."

SMYRNA RAISIN TRADE.

The Consul-General of Smyrna (Mr. C. E. Heathcote Smith) supplies the following report on the grading and packing of sultanas and other raisins:—

"Sultanas may be divided roughly into ten grades, but it must be taken into consideration that individual parcels classed as the same grade differ materially. Besides, there is a great confusion in the way of branding the different grades, as there is no system or control whatever. The following are the seven grades usually shipped to the United Kingdom:—(1) Choice Carabournou; (2) Extra Selected Yerli Sultanas; (3) Finest Yerli Sultanas; (4) Fine Yerli Sultanas; (5) Good Yerli Sultanas; (6) Good Average Yerli Sultanas; (7) Fair Average Yerli Sultanas. The bulk of the crop consists of the three lower grades. There are three other kinds of raisins:—Tchesme Eleme Raisins; Carabournou Eleme Raisins; Black Smyrna Raisins. The first two are generally divided into three grades:—(1) Kiup (finest); (2) Fine; and (3) Sirra (fair average). The black raisins are shipped mostly to France and Italy for wine-making.

"The producers may be divided into three categories:—The large and wealthy proprietors, of whom there are a good many; the well-to-do proprietors, not necessarily agriculturists, professional men who have invested their profits in vineyards; and then the very numerous peasant proprietors. All these sell their produce independently. There is no organization whatever, either in selling or buying.

"No organization exists at Smyrna for packing and marketing. The fruit when ready is sent in sacks of about 100 okes (275 ℔.) to market. The shipper compares each sack with the sample. A heap is then made and thoroughly mixed. The raisins are shovelled into boxes of 28 ℔., or half-boxes, and pressed down by men's feet. Plain water is used to prevent sticking.

"Every merchant has his own classing and grading. He sells chiefly on his own reputed grading. There appears to be no tendency towards over-refinement. Shippers try to match the samples they sell on by purchases in the open market. The fruit is shipped as ordered by the foreign firm: 'natural,' 'bleached,' or 'screened.' The bleaching, though giving a very attractive appearance to the fruit, is not much in demand owing to the smell of sulphur never quite disappearing."

Analyses of Fertilizers.

By W. L. Summers, Inspector of Fertilizers.

The following results of analyses of samples of fertilizers taken during the past few months are published for general information. In each case the certificate of constituents or guarantee registered by the vendor is shown in parentheses, thus (36 per cent.), immediately before the results of the analysis:—

Adelaide Chemical and Fertilizer Company, Limited.—*Mineral Super*, water-soluble phosphate (36 per cent.), 37·2 per cent., 37·9 per cent., 38·4 per cent.

Adelaide Chemical and Fertilizer Company, Limited.—*S.A. Super*, water-soluble phosphate (30 per cent.), 32·5 per cent., 34 per cent., 34·1 per cent.

Bagot, Shakes, & Lewis, Limited. — *Jap Super*, water-soluble phosphate (38 per cent.), 40·5 per cent., 40·7 per cent.

Elder, Smith, & Company, Limited.—*Lawes Super*, water-soluble phosphate (36 per cent.), 38·5 per cent.

Mount Lyell Mining and Railway Company, Limited.—*Standard Super*, water-soluble phosphate (37·11 per cent.), 37·7 per cent., 38·5 per cent., 38·9 per cent., 36·7 per cent., 39·2 per cent. Citrate-soluble phosphate (2·18 per cent.), not tested. Acid-soluble phosphate (4·36 per cent.), not tested.

Mount Lyell Mining and Railway Company, Limited.—*Adelaide Super*, water-soluble phosphate (30·56 per cent.), 33·2 per cent., 34 per cent., 35·4 per cent., 35·7 per cent. Citrate-soluble phosphate (2·18 per cent.), not tested. Acid-soluble phosphate (4·36 per cent.), not tested.

S. A. Farmers' Co-operative Union, Limited. — *Black Horse Super*, water-soluble phosphate (36 per cent.), 36·5 per cent.

Wallaroo Phosphate Company.—*Wallaroo Super*, water-soluble phosphate (36 per cent.), 38·6 per cent., 37·3 per cent.

Geo. Wills & Company.—*United Alkali Super*, water-soluble phosphate (36 per cent.), 38·2 per cent., 39·3 per cent.

Norman & Co.—*Reliance Super*, water-soluble phosphate (34 per cent.), 37·1 per cent.

Adelaide Chemical and Fertilizer Company, Limited.—*Guano Super*, water-soluble phosphate (25 per cent.), 29·5 per cent., 21·6 per cent., 28·4 per cent. Citrate-soluble phosphate (5 per cent.), 4·8 per cent., 7·2 per cent., 3·3 per cent. Acid-soluble phosphate (8 per cent.), 8·6 per cent.

ADELAIDE CHEMICAL AND FERTILIZER COMPANY, LIMITED.—*Bone Super,* water-soluble phosphate (15 per cent.), 11·9 per cent. Citrate-soluble phosphate (15 per cent.), 15·2 per cent. Acid-soluble phosphate (6 per cent.), 10·4 per cent. Nitrogen (1·60 per cent.), 2·3 per cent.

ADELAIDE CHEMICAL AND FERTILIZER COMPANY, LIMITED.—*Wheat Manure,* nitrogen (1·05 per cent.), 1·7 per cent.. Water-soluble phosphate (28 per cent.), 24·4 per cent. Citrate-soluble phosphate (5 per cent.), 13·3 per cent. Acid-soluble phosphate (7 per cent.), 7·3 per cent.

L. CONRAD.—*Superior Bonedust,* acid-soluble phosphate (43·6 per cent.), 43·9 per cent., 45·4 per cent., 37·5 per cent. Nitrogen (3·6 per cent.), 3·6 per cent., 3·5 per cent., 4·5 per cent.

CROMPTON & SON. — *Bonedust,* acid-soluble phosphate (44·67 per cent.), 42·2 per cent., 45·3 per cent., 45·8 per cent., 45·5 per cent. Nitrogen (3·8 per cent.), 3·9 per cent., 3·8 per cent., 4·1 per cent., 4·1 per cent.

ADELAIDE CHEMICAL AND FERTILIZER COMPANY, LIMITED.—*Bonedust,* nitrogen (3·25 per cent.), 3·6 per cent. Acid-soluble phosphate (45 per cent.), 43·9 per cent.

E. ANDERS & SONS.—*Victor Bonedust,* nitrogen (3 per cent.), 4·3 per cent. Acid-soluble phosphate (42 per cent.), 40·6 per cent.

EXCELSIOR MANURE COMPANY.—*"Excelsior" Bone Manure,* acid-soluble phosphate (28 per cent.), 24·9 per cent., 30·4 per cent. Nitrogen (2 per cent.), 2·1 per cent., 2·3 per cent.

PRODUCE EXPORT DEPARTMENT.—*Bone Manure,* acid-soluble, phosphate (28·6 per cent.), 24·5 per cent. Nitrogen (5·92 per cent.), 6·1 per cent.

WITTWER BROS.—*"Eclipse" Bonedust,* acid-soluble phosphate (44·3 per cent.), 44·3 per cent. Nitrogen (4·1 per cent.), 4·1 per cent.

TROTMAN FERTILIZER SYNDICATE.—*Fertilizer,* nitrogen (6 per cent.), 5·7 per cent.

PRODUCE EXPORT DEPARTMENT.—*Blood Manure,* nitrogen (11·5 per cent.), 11·6 per cent.

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Egg-laying Competition at Roseworthy.

White Leghorns Win.

The Year's Records.

The egg-laying competition for 1908-9 was completed at Roseworthy at the end of March. The winners of the 1908-1909 competition have again been found among the White Leghorns, as six hens of this breed, owned by Mr. T. B. Brooks, Ontario Egg Farm, Clarendon, maintained the lead for some considerable time, and slowly but surely forged ahead until the end, when they won with 1,447 eggs, of a total value of £5 8s. 4·80d., from Mr. D. Mildren's White Leghorns in pen No. 10, which were also well up with 1,404 eggs, valued at £5 4s. 11·44d. The third pen, No. 4 (Mr. C. Bertelsmeier), gained that position with a score of 1,372, valued at £5 1s. 8·52d. The second and third pens are both from Clare, which speaks well for the industry in that part of the State.

The following are the prize-winners in the two sections:—

Section I.—Light Breeds.

1. Ontario Farm (T. B. Brooks)	£10	0	0
2. D. Mildren	5	0	0
3. C. B. Bertelsmeier	3	0	0
4. Mrs. A. E. Kinnear	2	0	0
5. Thistle Stud Poultry Farm (W. Thompson, Quorn)	1	0	0

Section II.—Heavy Breeds.

1. Kappler Bros.	£10	0	0
2. Craig Bros.	5	0	0
3. F. E. Hannaford	3	0	0
4. G. Toseland	2	0	0
5. Carolina Egg Farm	1	0	0

The special prize (£5) for the highest commercial value of eggs laid was obtained by the Ontario Farm, with a value of £5 8s. 4·80d.

SUMMARY OF RESULTS.

Number of pens, 56.

Number of birds, 336.

Total number of eggs laid, 63,818; value, £232 19s. 10d.

Total cost of competition, £97 7s. 8d.; profit, £135 12s. 2d.

Average price of eggs, 11·09d.

Total number of eggs laid by hens in Section I., 34,517; value, £125 11s. 11d.

Total number of eggs laid by hens in Section II., 29,301; value, £107 7s. 11d.

Average number of eggs laid per pen, 1,139.

Average number of eggs laid per hen, 190.

Average cost per pen in competition, £1 14s. 6d.; average cost per hen in competition, 5s. 9d.

Profit per pen, £2 8s. 5d.; profit per hen, 8s. 1d.

Highest monthly score obtained during test—Section I., 150; Section II., 143.

Highest weekly score obtained during test—Section I., 36; Section II., 39.

Number of broodies—Section I., 79; Section II., 832.

Number of birds replaced—Through death, 13; through sickness, 9; total, 22.

	1st Test.	2nd Test.	3rd Test.	4th Test.	5th Test.
Pens	26	31	31	75	56
Average per pen	793	700	1,031	1,050	1,139
Average per hen	131	117	171	150	190
Highest total	1,032	1,343	1,343	1,531	1,447
Lowest total	292	316	517	632	743
Highest monthly total ...	150	141	151	154	150
Profit per hen over food ...	2/3	3/3	5/8	6/4	8/1
Market value of eggs laid by winning six hens ...	£4/5/4	£3/14/1	£3/19/5	£5/6/9	£5/8/4
Average price per dozen ...	1/0½	8¾d.	8½d.	9½d.	11d.
Cost per bird for food ...	7/8	3/1	4/11	5/4	5/9
Total eggs laid	20,630	21,710	31,962	80,959	63,818

Eggs laid by	No. Laid.	Value.	Value per Hen.	Cost per Hen	Cost per Pen.	Profit over Food, etc.	Profit per Hen over Cost of Food.
Winning pen, Section I. ...	1,447	£5/8/4·80	18/-	5/9	£1/14/6	£3/13/10	12/3
Lowest pen, Section I. ...	960	£3/7/7·72	11/1	5/9	£1/14/6	£1/13/1	5/4
Winning pen, Section II. ...	1,262	£4/14/4·28	15/8	5/9	£1/14/6	£2/19/10	9/11
Lowest pen, Section II. ...	743	£2/7/8·18	7/11	5/9	£1/14/6	13/-	2/2

RECORD OF EGGS LAID BY EACH PEN.

SECTION I.—LIGHT BREEDS.

No.	Owner.	Breed.	1908.									1909.			Total.	Average Weight per dozen Eggs.	Market Value of Eggs Laid.		
			April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.		Ozs.	£	s.	d.
1	Dunn, C. A.	White Leghorn ...	70	98	85	79	103	131	135	136	128	118	59	65	1,207	24½	4	7	11·23
2	Dunn, C. A.	White Leghorn ...	84	106	77	106	125	131	142	133	119	108	87	58	1,276	24½	4	13	11·56
3	Burgess, W. A	White Leghorn ...	54	60	70	70	88	111	133	112	134	130	114	53	1,129	23½	3	19	6·12
4	Bertelsmeier, C. B. ...	White Leghorn ...	89	127	96	84	129	133	147	146	120	137	93	71	1,372	25	5	1	8·52
5	Von Bertouch, G. ..	White Leghorn ...	78	105	65	76	124	121	129	131	133	134	106	46	1,248	25¾	4	10	2·38
6	Mitcheson & Greaves ...	White Leghorn ...	55	75	82	89	115	118	125	118	109	110	90	66	1,152	26½	4	3	5·28
7	Alfalfa Poultry Yards ...	Black Leghorn ...	64	75	36	56	102	110	115	117	106	94	66	19	960	27½	3	7	7·72
8	Robertson, F. C. ...	White Leghorn ...	27	116	96	118	132	122	127	122	113	111	103	90	1,277	24¾	4	14	7·37
9	Ontario Farm	White Leghorn ...	77	140	112	93	144	133	147	137	133	128	118	85	1,447	25¼	5	8	4·80
10	Mildren, D.	White Leghorn ...	110	128	85	100	140	131	129	128	137	142	85	89	1,404	26¼	5	4	11·44
11	Strickland & Semmens ...	White Leghorn ..	66	122	50	98	121	133	136	124	131	133	113	88	1,265	26½	4	11	4·16
12	Kinnear, Mrs. A. ...	White Leghorn ...	122	106	77	86	121	111	125	115	119	110	94	113	1,297	25½	4	17	5·88
13	Hill, W.	White Leghorn ...	29	87	58	78	128	120	124	120	119	113	104	42	1,122	26½	3	19	3·86
14	Thistle Stud Poultry Farm	White Leghorn ...	100	108	100	118	123	107	124	117	121	117	87	69	1,291	25¾	4	17	4·01
15	Sargenfri Poultry Yards	White Leghorn ...	104	101	74	103	134	113	133	120	126	118	86	77	1,289	25¾	4	15	3·39
16	Craig Bros.	White Leghorn ...	72	113	57	53	110	115	128	124	121	118	89	54	1,154	26¼	4	3	8·61
17	Whitrow, A. J. ...	White Leghorn ...	69	89	61	102	121	119	124	122	124	130	95	61	1,217	26¼	4	8	3·90
18	Biggs, W.	White Leghorn ...	86	91	58	63	121	112	132	121	124	122	74	46	1,150	28¼	4	2	11·84
19	Legoe, G. G.	White Leghorn ...	116	109	77	112	145	118	140	119	132	95	80	36	1,279	26¼	4	15	4·46
20	Bertelsmeier, O. O. ...	White Leghorn ...	50	93	65	58	79	93	120	122	128	118	82	50	1,058	25	3	16	7·66
21	Von Bertouch, G. ...	Brown Leghorn ...	35	60	51	73	118	113	139	131	124	132	97	59	1,132	23¾	3	18	0·94
22	Bradley & Boyle ...	White Leghorn ...	88	87	55	105	141	122	139	138	141	144	102	87	1,349	24¾	4	16	8·67
23	Palmer, W.	White Leghorn ...	85	101	79	86	125	143	141	131	132	138	102	74	1,332	25	4	17	3·19
24	Craig Bros.	Minorca ...	47	64	91	82	127	109	138	119	126	105	106	59	1,173	26¾	4	4	0·45
25	Blackmore & Farrow ...	White Leghorn ...	25	115	108	74	128	136	144	135	132	105	119	86	1,243	26½	4	7	9·01
26	George, J.	White Leghorn ...	56	84	29	107	123	139	146	117	142	150	117	59	1.333	25½	4	16	2·07
26A	Sunnyhurst Egg Farm ...	White Leghorn ...	90	128	93	83	105	129	129	127	116	131	89	65	1,285	24½	4	16	2·27
26B	Smyth, J.	White Leghorn ...	57	63	59	45	63	100	129	126	126	128	97	78	1,071	25½	3	15	6·51
			2005	2751	2046	2397	3335	3373	3718	3508	3516	3419	2654	1795	34,517		125	11	11·29

SECTION II.—HEAVY BREEDS.

No.	Owner.	Breed.	1908.									1909.			Total.	Average Weight per dozen Eggs.	Market Value of Eggs laid.		
			April.	May.	June.	July.	August.	September	October.	November.	December.	January.	February.	March.		Ozs.	£	s.	d.
27	Sargenfri Poultry Yards	Black Orpington ...	51	77	67	82	100	110	114	110	90	87	69	39	1,005	26¾	3	13	3·88
28	Thistle Stud Poultry Farm	S.P. Wyandotte ...	15	89	52	77	99	114	98	70	80	74	70	61	899	24¼	3	5	6·31
29	Craig Bros. (W.A.) ...	Black Orpington ...	54	106	115	113	123	118	111	91	107	94	102	86	1,220	23	4	12	4·72
30	Hyman, O. H.	Black Orpington ...	14	66	94	87	123	110	134	109	97	100	77	42	1,053	23½	3	14	11·82
31	Ontario Farm	Black Orpington ...	28	86	74	112	138	96	130	111	97	75	48	34	1,029	27	3	15	0·13
32	Wimble, F. J.	Black Orpington ...	42	68	64	116	129	113	127	118	93	82	67	50	1,069	25½	3	17	5·20
33	George, J.	Golden Wyandotte ...	10	24	47	113	104	89	103	84	97	91	73	114	949	24½	3	6	5·53
34	Sunmann, Miss... ...	Partridge Wyandotte ...	—	—	16	69	121	100	100	89	72	65	55	56	743	23¼	2	7	8·18
35	Carolina Egg Farm ...	Black Orpington ...	100	103	70	88	131	117	115	106	89	94	74	70	1,157	24¾	4	6	4·61
36	Petaluma Egg Farm ...	White Wyandotte ...	101	86	72	63	82	106	103	86	98	81	70	82	1,030	26	3	17	8·91
37	Leggoe, G. G.	Black Orpington ...	85	92	52	88	115	105	104	98	95	78	74	57	1,043	24	3	16	10·72
38	Bagenal, Mrs. B. W. ...	White Wyandotte ...	—	57	102	108	107	104	105	96	84	73	67	66	969	22	3	10	10·23
39	Hannaford, F. E. ...	Silver Wyandotte ...	36	109	103	102	106	114	121	106	110	98	87	84	1,176	26	4	7	11·54
40	Smith, J. J.	Black Orpington ...	87	89	48	82	143	118	110	98	108	113	98	83	1,177	24	4	5	9·37
41	Bartlett, D. W. ...	Silver Wyandotte ...	45	79	79	118	123	92	94	89	88	83	45	33	968	24½	3	12	6·30
42	Toseland, G.	Langshan	57	100	79	91	114	119	119	117	103	106	81	86	1,172	25½	4	6	10·58
43	Padman, J. E.	Black Orpington ...	59	72	16	27	102	115	116	95	104	95	59	40	900	25	3	2	3·61
44	Alfalfa Poultry Yards ...	Silver Wyandotte ...	7	64	83	97	113	108	112	92	96	88	79	68	1,007	23¾	3	12	6·31
45	Devonshire, W. ...	Buff Orpington ...	9	67	87	108	123	133	111	110	98	103	91	91	1,131	25¾	4	1	3·62
46	Bagenal B. W. (Vic.) ...	White Wyandotte ...	33	77	88	101	112	109	102	97	72	68	59	64	982	23¼	3	13	3·24
47	Gibson, F.	White Wyandotte ...	54	49	62	94	96	107	89	92	83	75	63	72	936	25¼	3	8	6·07
48	Hannaford, F E. ...	Silver Wyandotte ...	22	73	101	90	131	115	109	89	78	87	97	94	1,089	24½	4	0	8·80
49	Chapman, Mrs. ...	White Wyandotte ...	67	84	70	86	97	107	110	89	83	89	75	79	1,036	26¾	3	17	5·72
50	Mitcheson & Greaves ...	Black Orpington ...	71	60	66	81	91	96	107	101	86	82	64	45	950	27	3	9	9·79
51	Carolina Egg Farm ...	Black Orpington ...	91	103	82	70	89	112	114	104	90	84	79	64	1,082	25½	4	1	6 34
52	Sunnyhurst Egg Farm ...	Black Orpington ...	55	97	69	99	122	124	117	119	102	103	80	72	1,159	25½	4	4	7·67
53	Kappler Bros.	Silver Wyandotte ...	44	110	104	105	113	123	116	116	110	100	97	104	1,262	26½	4	14	4·28
54	Limb, R.	Columbian Wyandotte ...	75	97	81	79	114	117	107	96	88	80	84	90	1,108	25¾	4	3	7·97
		Totals... ...	1312	2184	2046	2546	3190	3091	3098	2778	2598	2448	2084	1926	29,301		107	7	11·46
										Grand Total...63,818					232	19	2·75

Insect Pests and Their Foes.

Sixth Progress Report by Mr. W. W. Froggatt, F.L.S., Entomologist to the New South Wales Department of Agriculture.

(Continued from page 621 of the February issue.)

I reached Bombay on May 29, 1908, and at once called upon the Colonial Secretary, who gave me letters to the Acting-Director of Agriculture at Poonah, to which place I went the following day, and after getting some information from him, drove down to where the new Agricultural College is being erected, and met Dr. H. H. Mann, who, after being scientific adviser to the tea-planters of Assam, has been appointed the principal. I returned the following night to Bombay, and an hour later took the night mail to Calcutta, to Waine Station, the nearest point to the Imperial Research Laboratories at Pusa, Bengal. On the road I received a telegram from Mr. Howlett (second Imperial entomologist), saying he would meet me at Allahabad, where he was investigating fruit-flies. I met him at the junction at midnight, and we spent the next three days around Allahabad, Cawnpore, and Lucknow, in orchards and melon fields. Then we parted company, while I went north to Dehra Dun and Missorie to see Mr. Stebbing, the entomologist of the Indian Forestry Department; but though I met other officers of the department, Mr. Stebbing was away on tour. I then returned, travelled all Sunday night, and met Mr. Howlett at Mogul Seria on Monday evening, and reached Pusa at 6 o'clock on the Tuesday morning.

Here I spent five days working in the laboratories with Messrs. Lefroy and Howlett, and collecting and breeding fruit-flies in the peach orchard, among the mango-trees, and in the melon fields. On June 16, 1908, accompanied by Mr. Howlett, who has been specially sent out to Pusa to study the habits of biting flies and *diptera* generally, I left for Calcutta, which we reached on the following day, and spent the afternoon going through the collections with the curator, Dr. Annandale. Leaving late the same evening for Bangalore, *via* Madras, which we reached early on the morning of the 20th, the Director of Agriculture at Madras sent the entomological assistant on his staff with us, and Mr. Ayer proved a very useful guide and interpreter to us while in the State of Mysore, where we collected a great number of fruit-flies in all kinds of fruits. Though the season was practically over we obtained maggots on nearly all the fruit.

Though in the course of their investigations on Northern India, after breeding out some thousands of fruit-flies, only three specimens of a parasite have been bred in Bangalore, Mr. Ayer finds at least three small braconid wasp parasites in the fruit-fly pupæ that infest the guavas that ripen in October and November, but at the same time he estimates them as reaching only 12 per cent. of the flies, and has never obtained any parasites from pupæ taken from mangoes, oranges, or peaches. All the nurserymen agreed that all their guavas have been destroyed for the last six years with fly-maggot. I therefore hold out very hope of this being an effective parasite in Australian orchards, if it cannot check the ravages of the fruit-fly in its native haunts; but if any of the Departments of Agriculture interested want to obtain these parasites, a number could be obtained at a very small cost. I have enlisted the services of the Imperial Entomologist and his assistants to take up the matter, and the Director of Agriculture for Madras will lend his native assistants, who are trained entomologists, and if so instructed would collect and forward *via* Colombo parasites and pupæ this coming season.

Returning to Madras on June 25, 1908, I parted with Mr. Howlett, who has given me such valuable assistance, and started for Ceylon *via* Tuticorin the same evening, reaching the boat the following evening and landing in Colombo early next morning (Saturday, 27th). After calling at the Agricultural Society's offices and the chemical branch of the Botanical Gardens Station, I left for Paradenyia the same afternoon, and spent the two following days in the laboratories of the Royal Botanic Gardens examining the collections and collecting fruit-flies. Then, with Mr. West (acting entomologist), I went across to the south-east of the island, among the tea plantations, where I found that fruit-flies were common in the garden fruits later in the season. Returning the next day, I met the Director of the Royal Botanic Gardens, who advised me to visit the great mango district of Jaffna, in the north of Ceylon, and he wired to the Resident of the district to place his officers at my disposal while there.

Reaching Jaffna late the following night I was met by Messrs. Mattahumura and Chelones, who arranged everything for me until I left. In the morning we drove through twenty miles of palm groves and cultivated lands, and though the season was late and there was not much fruit about, I found any amount of fruit-fly maggots in the melon fields, from which I have since bred a fine series of a large fruit-fly, allied to *Dacus cucurbitæ*. On my return to Colombo I spent the morning with Dr. Wiley at the museum, and examined his collections.

The Mediterranean fruit-fly is not found in India or Ceylon, though I found specimens in the collections at Cairo. All the fruit-flies in the latter countries belong to the genus *Dacus*, and are allied to the Queensland fruit-fly. The parasites in Bangalore are only bred from species of *Dacus*, and we have no record of one on the Mediterranean fruit-fly.

Produce Export Notes.

Extracts from the Commercial Agent's Reports.

LONDON, January 15, 1909.

Lecture to Grocers.

On the 12th instant I gave a lecture at Manchester under the auspices of the Northern Council of Grocers' Associations. It was certainly a unique opportunity of bringing our produce before the very people interested, and I think I am safe in saying it was the most successful I have yet given. There were present representatives from the Grocers' Associations of 20 of the most important towns in Lancashire. At the close of the lecture I took definite orders for 10 tons of honey, and orders, subject to quality and price, for 1,000 cases of apples. I have also arranged to supply the Council with samples of South Australian dried and tinned fruits immediately the new season's fruits arrive. The towns represented by this Council are:—Accrington, Blackpool, Darwen, Liverpool, Stockport, Ashton, Bolton, Earlestown, Oldham, Stalybridge, Birkenhead, Burnley, Halifax, Preston, Wallasey, Blackburn, Chorley, Leigh, Southport, Workington.

Eggs.

The market has firmed almost beyond expectations. Eggs of a quality equal to those sent from South Australia last year are readily selling at 14s. per 120 for medium size (15 ℔.). To-day I had a definite offer of 13s. from a man who bought some of ours last year. This confirms what I have stated all along, *i.e.*, the man, whatever his produce may be, who consistently consigns right through the season, and season after season, taking market risks himself, in the long run comes out better than the one who sells one month and consigns another and so on.

Lambs.

I am able to report a little better demand during the past week, but no improvement in price; in fact, secondary and inferior are being offered as low as 3½d., without meeting with much response. There have lately been heavy supplies of kidneys from New Zealand, and consequently prices have eased.

Apples and Pears.

The outlook of the market is certainly very promising, and if the quality and grading are good, I think it is safe to say that prices will be satisfactory during the coming season.

FROZEN MEAT IN SPAIN.

In connection with my investigations in Barcelona some time ago in regard to introducing frozen meat into that city, Mr. Massom, with whom I am negotiating, has recently visited London with a view to obtaining the latest information *re* cold stores. I arranged with him to look over some of the principal cold stores here, and also introduced him to Messrs. Linde. Mr. Massom informs me that the authorities have decided to erect a cold store near the chief wharf at Barcelona, also that the Butchers' Association estimates its requirements, to commence with, will be 800 carcasses per week. They are prepared to take a trial shipment of 500 carcasses immediately the stores are ready. Satisfactory arrangements have been concluded with the health authorities. The conditions are that meat going from London must be inspected by a veterinary-surgeon here, and a certificate given, the same certificate to be endorsed by the Consul-General in London for Spain. I have interviewed the Spanish Consul-General, and he is quite willing to assist in every way possible. It will be seen that all the alleged insurmountable difficulties of introducing frozen meat on the Continent have been overcome so far as Spain is concerned; there is, however, one obstacle remaining, which is likely for the time being to retard further progress, and that is the want of suitable freight accommodation. I cannot find a single shipping company that has ships going to Barcelona with cold-storage accommodation. If we can only get the trial shipment there I feel sure the difficulty would be overcome, because then, being satisfied with the quality of the meat, the Butchers' Association would be in a position to give a guarantee for a regular monthly supply, and with this guarantee there is no doubt that some shipping company would put suitable steamers on once a month or so, and eventually it is possible during the season sufficient inducement would be offered for direct ships to call.

LONDON, February 9.

OLIVE OIL.

Although I understand there is not any likelihood of exporting olive oil to this country from South Australia, I consider the following information may be of value to producers. It is reported—and I believe quite authentically—that the European olive crop is a failure, due to an insect known as "olive-fly," which attacks the fruit and causes it to drop before it matures. In any case, the price of the oil has risen about 40 per cent., with every prospect of a further rise.

FRUIT.

Peaches, nectarines, plums, and pears are arriving in increased quantities from the Cape of Good Hope, and it is anticipated that next week's arrivals will prove a record. Plums are realizing from 2s. 6d. to 8s. per box. In respect to the lower price, however, this was due to some of the fruit being soft. Clapp's Favourite and Williams were the two chief varieties of pears; the former realized from 4s. 9d. to 6s., while the best of the latter kind commanded 10s. 6d. per box. The size of the above package is 18 x 12, depth according to the fruit, that for pears being about 6 in. and for plums 3 in. The quantities contained in the boxes were:—Pears, 18 to 36 in each, according to variety; and plums, 20 to 42 in each box.

Lambs.

This morning at Smithfield Market hundreds of carcasses of Australian lamb were sold off the hook at 2½d. to 3d. per lb., and nothing like this state of affairs has been known before. The principal factors that have led to this unprecedented slump are:—(1) The very large quantity of old season's lambs still left in store, which, owing to their condition, must be sold at any price. (2) Unprecedented quantity and consequently low value of Dutch sheep and lambs which arrived here during the last three months of 1908. (3) Plenitude of Scotch lambs and sheep, which have been selling lower than ever in the memory of most dealers. The number of live sheep in the United Kingdom in 1908 was 31,255,917, against 30,011,219 in 1907. Cattle also show an increase of about 100,000 head. These facts, together with an extremely limited demand, are not conducive to high prices. Again, it is generally supposed that low prices increase the demand; this is undoubtedly the case nine times out of ten, but just now the increase in supplies is greater than the increase in demand, and consequently there is not much chance of an improvement in prices.

EMPLOYMENT BUREAU.

The following applicants for farm work have been registered at the Labour Bureau, to which those who desire to employ the men should address themselves:—

No. 8.—Single man, 20 years, South Australian, 7 months' experience, £1, as station hand.

No. 9.—Youth, 19 years, 8 years' experience, £1 and keep, as farm hand.

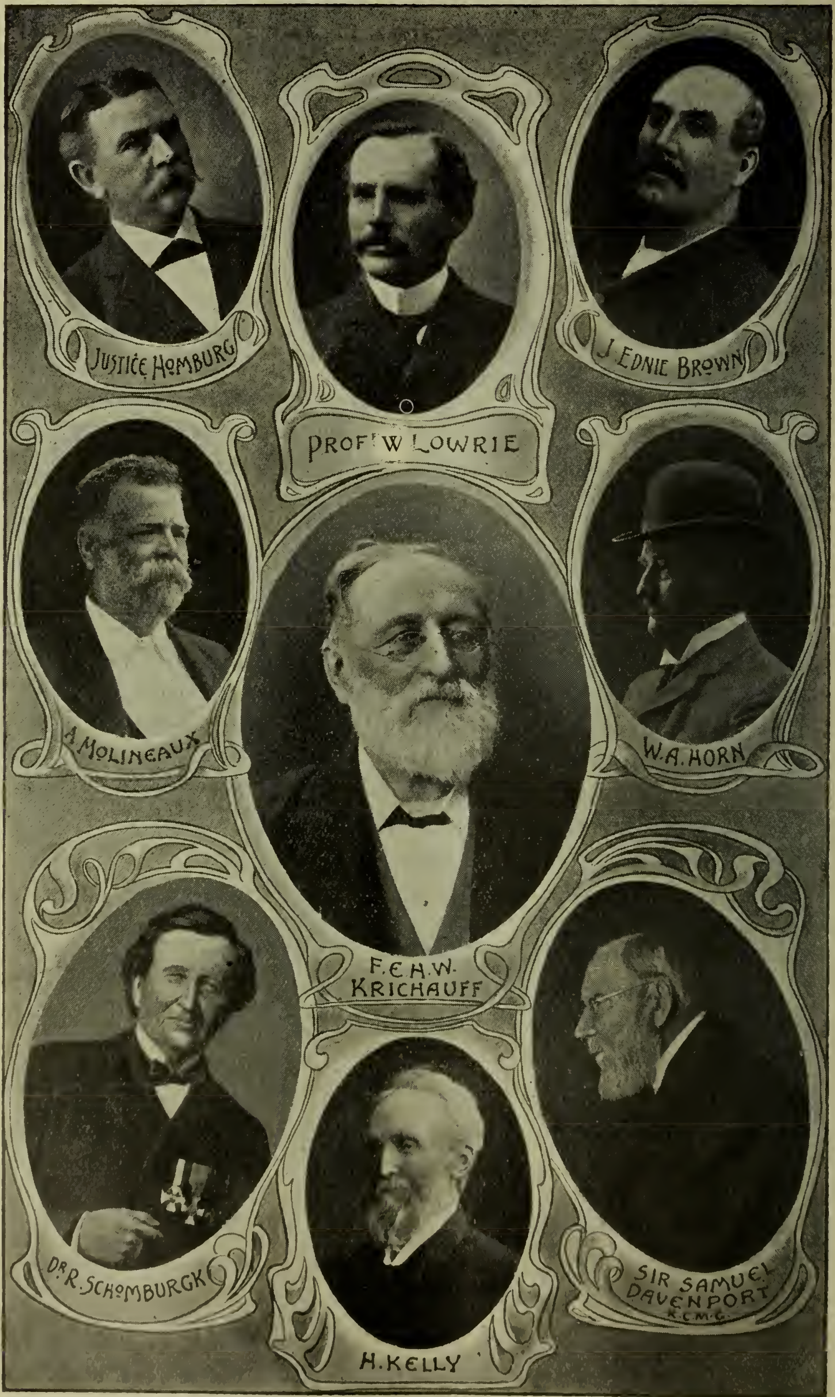
No. 10.—Youth, 19 years, South Australian, 3 years' experience, £1 a week, as farm hand.

No. 11.—South Australian, 20 years, 4 years' experience, £1 a week, as station hand.

No. 12.—Married man, 35 years, 15 years in South Australia, 12 years' experience, 30s. a week and keep, as farm manager.

No. 13.—Single man, 23 years, South Australian, 5 years' experience, £1 a week and keep, as farm hand.

No. 14.—Married man, 28 years, lifelong experience of farm work, position as manager or farm hand.



Central Agricultural Bureau, 1888.

Advisory Board of Agriculture, 1909.

G. Jeffrey. Prof. Angus.

Back Row—W. L. Summers (Secretary), T. N. Hardy, Prof. Perkins, Col. Rowell, C. J. Tuckwell, A. M. Dawkins, and C. Willcox.

Front Row—C. J. Valentine, A. Molineux, G. R. Laffer (chair), J. W. Sandford, J. Miller.

ADVISORY BOARD OF AGRICULTURE.

The monthly meeting of the Advisory Board of Agriculture was held on Wednesday, March 3, there being present:—Mr. G. R. Laffer (chair), Col. Rowell, C.B., Prof. Perkins, and Messrs. C. J. Valentine, J. W. Sandford, T. N. Hardy, C. J. Tuckwell, J. Miller, C. Willcox, A. M. Dawkins, and A. Molineux.

The Secretary reported on resolutions carried at Caltowie Conference; to be considered at next meeting. Delegates were appointed to attend South-Eastern Conference.

The following gentlemen were approved as members of the undermentioned Branches:—Messrs. C. Staudie, Tatiara; W. Greenshields, Nantawarra; C. Atkinson, Cummins; J. Dunn, P. Quinn, D. Smith, Dawson; A. S. Hawker, J. A. Horrocks, A. N. Green, T. C. Paltridge, Brinkworth; S. Baumgurtel, Amyton; O. Reichstein, O. Tilbrook, Morchard; W. Rauth, Bute; T. W. Bawden, Maitland.

The Secretary tabled sample of wheat received from Tatiara Branch with the statement that this had been drawn from a stack in the station yard which had been purchased at full market rates. The sample contained a large proportion of drake and was very smutty, and members expressed the opinion that it was a disgrace to the grower. Members found it hard to believe that any buyer would accept such a sample as milling wheat, much less pay full price for it.

Mr. Sandford tabled samples of softshell almonds sent down from Gladstone; the shells had been broken away on the edge and the kernels abstracted by starlings. He had never heard of the birds doing this before, but his correspondent was certain that the starlings were the sinners. Col. Rowell and Mr. Hardy referred to the action taken by the Committee of the Royal Agricultural Society in the matter, and mentioned that it was intended to try whether the birds could not be destroyed in the mangroves, where they roosted in immense flocks. The Chairman was certain that the matter would have to be taken up vigorously at an early date, as the birds were increasing at an enormous rate and becoming more destructive every season. Last year in the Somerville district in Victoria they did enormous damage to the Jonathan apples; those that were not pecked were so dirty that they had to be washed. In his own garden they were attacking the apples. He was certain that by concerted action on the part of the growers at certain seasons of the year they could be poisoned by the thousand, and it was only in this way that much good could be accomplished. He thought they should endeavour to have a conference of representatives from the Vinegrowers', Fruitgrowers', and other Associations to discuss the matter. It was resolved that the Hon. Minister be asked to call a conference of representatives from different associations interested to consider the question of action that should be taken to control the starling pest. Col. Rowell said he urged a good many years ago that the Government should be asked to make the destruction of sparrows and starlings compulsory. If this had been done twelve or fifteen years ago it would have been an easy matter to have kept them under control, but the motion he moved at the meeting of the District Councils Association roused such a storm of opposition from landowners that he was unable to carry it on. He was satisfied that much good could be accomplished by concerted poisoning at the end of the grape and cherry seasons, as suggested by Mr. Laffer.

Mr. Tuckwell referred to the damage by locusts or grasshoppers in the North, and in view of the reports that locust fungus was being used successfully in Victoria, he moved that a full report should be obtained on the matter. Mr. Molineux said this fungus had been tried for a number of years, but under the dry conditions of our Northern districts it was not likely to be effective. In South Africa the chief agent in dealing with the locusts was arsenical poisoning.

A LARGE ALMOND-TREE ON THE MURRAY.

Poultry Notes.

By D. F. Laurie.

THE OVERSEA EXPORT OF EGGS.

Last season, although every arrangement was made, and in spite of the facts that excellent results had accrued from the 1907 shipments and that the Commercial Agent had cabled that the prospects as regards prices in the matter of sending eggs to Great Britain were excellent, practically no support was forthcoming. There were a few wise people, but the bulk appeared indifferent. Some people think it is an easy matter to organize the export of produce like eggs, which must be specially handled, and carried at a temperature different to that suitable to any other produce. No private firm could, except at great risks, undertake to engage space in steamers and have all the cases, etc., in readiness.

THE PRICE OF EGGS.

Until the Government took the matter of the export of eggs in hand there was always a period of low prices—so low that eggs were not worth gathering and sending to market. The first shipment was looked upon as a fad by most in the trade, and many amusing prophecies were made as to failure. In spite of a few minor defects the shipment was a success, and proved that eggs could be landed in England as fresh as when they left Australia, and further that there was a better price to be had. Next season three shipments were arranged for, and, as the time drew near, the price in Adelaide began to rise in an unwonted manner. This alarmed some of those who had agreed to ship, and unfortunately not a few people regarded their bond to ship as an agreement to be lightly broken. Others, from selfish motives, did not support the movement, as they openly stated that they would profit by the enhanced local prices. It became necessary to cancel space in one of two steamers, and after very careful deliberation the arrangements were altered. The price, however, held strongly until the last shipment sailed, and then eased, in spite of the fact that the withdrawal of these small parcels could have no effect on local prices. These shipments proved successful.

Last year (1908) complete arrangements were made for several shipments of eggs, but the prices ranged higher than ever, and market reports were saturated with references to strong demand from the other States. In the face of local prices, which on our previous experience left practically no margin, it was futile to attempt inducing friendly cooperation among the many merchants who are prepared to assist.

Finally it was decided to purchase and ship some eggs, and although nothing was said on the matter the price went up with a jump.

THE OTHER STATES.

From time to time, as the Commonwealth interstate trade figures reached me, I published details of values and comparisons with previous years. Invariably I proved two things:—I. That on the basis of Adelaide prices, as published, the declared values of eggs transferred to other States left but a small margin. Now, you cannot buy casks and packing-material for nothing, nor can you get free cartage and wharfage; someone paid the loss. 2. Hard facts in the shape of figures showed that the much-vaunted increased interstate demand was a myth. Less eggs were transferred to the other States during the year 1908 than during 1907. Anyone who disputes this is insinuating that our exporters falsify their Customs declarations.

THE HIGH PRICES OF 1908.

Why then, it may be asked, have the prices for eggs been so much higher if the interstate egg-trade has been less than in 1907? My answer is that as our London shipments indicate a 7d. to 7½d. basis, the lower, at least, of those prices will be our future minimum. Adelaide is a small place, and I am quite sure that it was well known that several firms were prepared to ship eggs at about that price. Markets are governed by the law of supply and demand, and, as we have the supply and the other States the demand, it surely may be expected that if they want our eggs the price paid must be in some accordance with what London offers. As a matter of fact, our neighbours have been compelled to pay what may be regarded as almost fancy prices and yet really only fair ones.

IN COLD STORE AND PICKLE-TUB.

I happen to know just about how many eggs this and that cellar or cold store contains, and I know that a lot of people pickle anything from ten to 100 dozens. I keep well within the mark when I say that there are 200,000 dozen eggs in cold store, pickle-tanks, tubs, kerosene tins, etc. I also know that when prices were quoted high the eggs had to go into the pickle-tub in the hopes of retrieving the battle later on. At the time there was no chance of business at the price. It is also a fact that on many occasions the same order was placed with different firms, which caused an inflated idea of demand and the price held.

TO THE PRODUCER.

The greater the portion of our surplus we ship away from Australia the better are the prices for the producer in autumn and winter. Owing to the inertness and general apathy of those who should assist in this matter, we are faced with the fact that these 200,000 dozen eggs will be on the market and compete with autumn and winter eggs, and lower the general price. We are improving the egg-production of our fowls, and can breed hens which will lay almost as many eggs in autumn and winter as in spring. Now, although cold storage and pickle-tubs may tempt speculators to pay slightly better prices in the glut-times, we are in danger of two things—first, speculators may not find the game profitable and may cease operations; second, with the increased autumn and winter production of eggs we may find cold-stored and pickled eggs selling at a still greater margin under fresh eggs than is the case at present.

A good many people may think the matter of little moment, and evidently rely upon everlasting good years, high prices, cheap freight, and freedom from droughts, grasshoppers, rust, wind storms, and all the other matters mentioned in the producers' litany. Those beliefs do not affect the issue. Poultry-keeping is increasing by leaps and bounds, and a sure market must be found for the products, and a minimum margin must be assured. I am a poultry-lecturer, not a merchant. I am endeavouring to instil into the poultry-owner the desirability of obtaining as much as he can for his produce. I am not particularly concerned with the speculator in stored eggs, and cannot see that the abolition of this branch of the business would have any but a beneficial effect on the producers' pockets. I have not taken into account the huge quantities of eggs held in the other States; in Sydney alone, in the big stores, there are—or were recently—between 300,000 and 400,000 dozens, and how many more in private holdings, goodness knows. In Melbourne there is a big stock—not quite as large as in Sydney—but in the West the holding is only small.

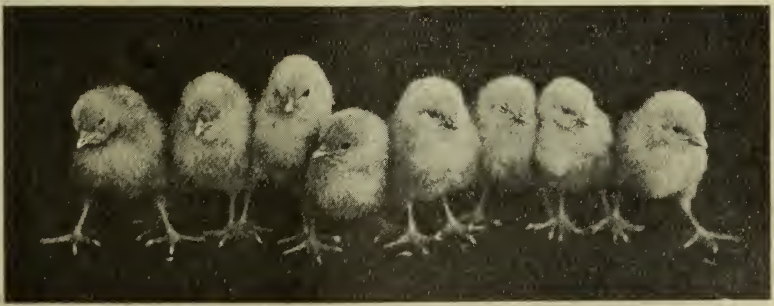
Interstate Markets.

Our shipments to New South Wales have increased somewhat, due partially to bad seasons in that State, which caused heavy reductions in the number of poultry kept. Reference has been made to the exclusion of the Pacific Island and China egg-trade, but it has been duty free for years. Recent advices state that a good season is assured, and I know there is a great revival in poultry-breeding in New South Wales, so we may expect that State to recover and the demand for our eggs to ease off. Victoria has taken rather more than usual—partly for speculation—and the increase is in some measure due to local health regulations regarding the use of substitutes for eggs. We may expect Victorian supplies to forge ahead, with the usual result as far as we are concerned. Western Australia is falling from grace as an importer of South Australian eggs. Poultry-production is increasing, and the times are past when it was "tinned dog" and fried eggs all the time.

A Few Figures.

The declared value of eggs sent from South Australia to other markets for the year 1908 was £127,500. For the year 1895 the exports of eggs were valued at £27,275. So in thirteen years the exports have increased by £100,000 annually—not bad progress. During that time the total value of exported eggs was £1,182,529. The loss to the State through rotten and other unsaleable eggs, bad packing, etc., is certainly £50,000 a year. Large numbers of poultry can be kept at a profit; from 450 an average profit of 6s. 4d. a head has been made at Roseworthy. South Australians are proud that the State is receiving a world-wide advertisement as the result of the laying hens at Roseworthy. Four world's records have been made with South Australian hens—Subiaco, Gatton, and Roseworthy (two pens). The official report has been translated into foreign journals, and the report and results printed and commented upon in poultry-papers read by hundreds of thousands of people. South Australian fowls have recently been shipped to one of the leading poultry-farms in England, and the price paid was large.

Our success depends upon our markets. We have a magnificent climate, good fowls and breeders, and we have the prospect of an unlimited and profitable market in England. If we want that market we must ship and ship continuously—year after year—and must not be led astray by a few self-interested local speculators.



The Wheat Market.

Prices advanced still further during March, rising from 4s. 1½d. per bushel for farmers' lots on trucks at Port Adelaide to 4s. 6d. at the end of the month, and on April 16 the quotation was 5s. on trucks and 5s. 2d. to 5s. 3d. f.o.b. Such wheat values have not been known since the sudden spurt in October, 1907, when 5s. 2d. per bushel was offered in Adelaide for a day or two, owing to interstate speculations, but the present rise has a firmer foundation, although the position in the eastern States has a good deal to do with it. In South Australia the total yield may perhaps exceed the official estimate of nearly 20,000,000 bushels, but the Victorian crop will, it is believed, prove to be nearly three-quarters of a million below the official forecast of 24,000,000 bushels. The Australian exportable surplus for the season is estimated at about 38,000,000 bushels (4,750,000 quarters).

Beerbohm's Evening Corn Trade List reports on the wheat position on March 5:—"High prices and an urgent need of wheat have brought out already a much larger proportion of the surplus in Argentina and Australia than was the case last year; the period of diminishing shipments will, therefore, appear much earlier than usual, probably next month. Meantime everything goes to support our previously-expressed conviction that the wants of the European importing countries must be very large indeed during the months which separate us from the next (European) harvest; and unless the trade has been greatly deceived, both in respect to Argentina and America, it seems to us that a high level of prices is inevitable this season."

According to the same paper the farmers' stocks in America have been greatly overestimated by the officials, and one American authority pointed out at the beginning of March that if America were not to export another bushel during the remainder of the season the stocks carried forward next July would not be as large as they had been frequently in former years. Mr. Patten, a leading Chicago wheat speculator, who is reported to have made a million of money in less than a fortnight, and who is said to hold three-eighths of the American visible supply, states that the supply of wheat is not increasing proportionately to the world's population. If this is so there should be a bright future before Australian farmers for some years at any rate. Prices of course will vary each year, but the average of prices, if production is small and consumption large, must be high. The shortage of wheat supplies in Europe has resulted in the price for the quartern loaf in London reaching sixpence, and bakers are demanding a further rise to 6½d. or 7d. In Adelaide the increase in the price of flour has resulted in the price of the 2-lb. loaf being raised from 3d. to 3½d. The latest sale reported of South Australian wheat is 43s. 10½d. per quarter for a cargo dispatched from Port Victoria on March 31.

Date.	LONDON (Previous Day). Per Bushel.	PORT ADELAIDE. Per Bushel	MELBOURNE. Per Bushel.	SYDNEY. Per Bushel.
March 6	Dull	4/1½	4/4	
8		4/1	4/4 s.	4/5 b.
9	Quiet ; firm	4/1	4/3½ b. ; 4/4 s.	4/5 b.
10	Very dull	4/1	4/3½ to 4/3¾	4/5 to 4/5½
11	Quiet ; firm; Liverpool 4/10½	4/1	4/3½ to 4/4 s.	4/5 to 4/5½ b.
12	4/11¼ March ; 4/11⅝ April	4/1	4/4 b.	4/5 to 4/5½ b.
13	Very firm ; 4/11¼ Feb.	4/2	4/5	
15		4/2	4/5½	4/6½ b.
16	Quiet ; 5/- s. March	4/2	4/5½	4/6½ b.
17	4/11¼ Feb.	4/2	4/5½ b.; 4/6 s.	4/6½ b.
18	5/0⅜ b. March	4/2	4/6½ Mar.; 4/7 Apr.	4/7
19	4/11⅝ Jan.	4/3	4/7 Mar., Ap., May	4/8 s..
20	Quiet ; Liverpool 5/- March	4/3	4/7	
22		4/3	4/7½ April-May	4/9 s.
23	Quiet ; Liverpool afloat 4/11⅝ s.	4/3	4/7 s. (parcels)	4/9
24	Very dull ; Liverpool March 5/- s.	4/4	4/6½	4/8½ to 4/9
25	5/- March	4/4	4/6¾ to 4/7	4/9
26	Very firm ; Liverpool 5/- March	4/4	4/6½ to 4/6¾	4/9 b.; 4/9½ s.
27	Very firm	4/5	4/7½ to 4/8	
29		4/5	4/8 to 4/9	4/10 on trucks
30	Quiet ; firm	4/6	4/9 to 4/9½	4/10
31	Very firm ; Liverpool 5/0$\frac{15}{16}$d Feb.	4/6	4/9½ to 4/10 (parcels)	4/10 b.; 4/10½ s.
April 1	Quiet	4/6	4/9½ to 4/10 (parcels)	4/11s.
2	March 5/1⅞ ; very strong	4/7	4/10 to 4/10½ (parcels)	4/11 s.
3	Feb. 5/1½ ; March 5/2¼	4/7	4/11	4/11
5		4/7	4/11 to 4/11½	5/- s. (parcels)
6	Very firm	4/7	4/11 ex store	4/11 (nominal)
7	Advancing for sellers	4/8	4/11½ to 4/5	4/11 (nominal)

Freights.—Per Steamer—Port Adelaide to U.K. and South Africa, 20/- to 22/6 per ton (6⅖d. to 7$\frac{1}{10}$d. per bushel) during March ; by April 5 freights to U.K. had fallen to a nominal price of 15/- to 17/6 per ton (4⅘d. to 5½d. per bushel). Port Adelaide to Melbourne, 8/- per ton (2½d. per bushel) ; to Sydney, 10/6 per ton (3⅕d. per bushel).

RAINFALL TABLE.

The following table shows the rainfall for March, 1909, at the undermentioned Stations, also the average total rainfall for the first three months in the year, and the total for the three months of 1909 and 1908 respectively:—

Station.	For Mar., 1909.	Av'ge. to end Mar.	To end Mar., 1909.	To end Mar., 1908.	Station.	For Mar., 1909.	Av'ge. to end Mar.	To end Mar., 1909.	To end Mar., 1908.
Adelaide	0·66	2·52	1·62	3·55	Stockwell	0·64	2·15	1·94	2·71
Hawker	0·47	1·59	1·04	2·24	Nuriootpa	0·42	2·35	2·10	2·77
Cradock	0·43	1·78	0·69	2·08	Angaston	0·76	2·29	2·40	2·61
Wilson	0·49	1·74	0·75	2·93	Tanunda	0·65	2·59	2·27	2·23
Gordon	0·20	1·76	0·36	2·50	Lyndoch	0·55	2·29	1·88	2·37
Quorn	0·08	1·64	0·35	3·26	Mallala	0·59	2·18	1·46	1·98
Port Augusta	0·39	1·75	0·76	2·70	Roseworthy	0·97	2·11	2·03	1·95
Port Germein	0·25	1·73	1·14	4·48	Gawler	0·53	2·40	1·60	2·32
Port Pirie	0·07	1·77	0·71	3·59	Smithfield	0·67	2·41	1·35	2·73
Crystal Brook	0·16	1·81	1·18	2·86	Two Wells	0·55	2·12	1·33	2·15
PortBroughton	0·22	1·79	1·32	1·86	Virginia	0·51	2·22	1·16	2·51
Bute	0·57	1·74	1·25	2·37	Salisbury	0·48	2·35	1·35	2·40
Hammond	0·25	1·70	0·54	5·90	Tea Tree Gully	1·14	3·38	2·59	4·20
Bruce	0·08	1·67	0·30	4·34	Magill	0·64	2·97	2·07	3·29
Wilmington	0·13	1·97	0·74	4·13	Mitcham	0·57	2·44	1·84	3·28
Melrose	0·17	3·09	1·14	5·99	Crafers	1·25	4·39	4·32	4·74
BoolerooC'ntre	0·12	1·95	0·60	4·13	Clarendon	1·14	3·61	2·60	3·76
Wirrabara	0·13	2·13	1·19	4·63	Morphett Vale	0·69	2·74	1·69	2·68
Appila	0·19	2·18	0·93	3·61	Noarlunga	0·89	2·32	1·48	2·34
Laura	0·13	2·09	1·15	3·89	Willunga	1·34	2·75	2·25	2·69
Caltowie	0·07	2·14	0·87	3·15	Aldinga	0·69	2·62	1·47	2·35
Jamestown	0·11	2·16	0·69	2·75	Normanville	0·81	2·13	1·52	2·29
Gladstone	0·13	1·88	0·83	3·65	Yankalilla	1·04	2·43	1·02	2·64
Georgetown	0·13	2·25	0·91	2·62	Eudunda	0·40	1·95	1·31	2·65
Narridy	0·16	2·15	0·84	2·64	Sutherlands	0·43	—	0·67	—
Redhill	0·12	1·85	1·04	2·77	Truro	0·62	2·14	2·05	2·93
Koolunga	0·15	1·98	0·93	2·99	Palmer	0·54	—	1·27	2·15
Carrieton	0·14	1·72	0·43	2·38	MountPleasant	0·74	2·72	1·82	2·00
Eurelia	0·15	1·79	0·52	4·47	Blumberg	0·63	3·09	2·13	2·81
Johnsburg	0·15	1·41	0·49	2·03	Gumeracha	1·06	3·21	2·91	3·39
Orroroo	0·13	2·33	0·51	3·19	Lobethal	1·49	3·18	3·10	2·83
Black Rock	0·20	2·00	0·52	2·53	Woodside	1·16	3·02	2·66	3·50
Petersburg	0·39	2·06	0·95	2·37	Hahndorf	0·72	3·33	2·50	3·29
Yongala	0·15	1·86	0·50	1·69	Nairne	0·82	3·20	2·48	3·15
Terowie	0·30	2·00	0·62	1·60	Mount Barker	0·69	3·30	2·30	2·94
Yarcowie	0·22	1·98	0·71	1·90	Echunga	0·74	3·30	3·24	3·37
Hallett	0·14	1·95	0·78	2·40	Macclesfield	1·01	2·96	2·90	3·36
Mount Bryan	0·26	1·79	0·64	2·39	Meadows	1·82	3·67	3·53	3·51
Burra	0·33	2·35	2·41	2·26	Strathalbyn	0·77	2·40	2·03	2·46
Snowtown	0·33	1·82	1·28	2·30	Callington	1·00	2·18	1·48	2·32
Brinkworth	0·19	1·96	0·96	2·80	Langh'ne'sBge	0·78	1·94	1·55	2·01
Blyth	0·29	1·98	1·72	2·95	Milang	0·78	2·16	1·51	2·95
Clare	0·50	2·75	1·92	3·53	Wallaroo	0·70	1·83	1·37	2·20
MintaroC'ntral	0·21	2·12	1·39	3·02	Kadina	0·44	1·88	1·06	1·92
Watervale	0·76	2·65	2·39	4·34	Moonta	0·45	1·87	1·06	2·12
Auburn	0·76	2·96	2·70	3·49	Green's Plains	0·49	1·57	1·04	4·53
Manoora	0·28	1·92	1·32	2·75	Maitland	0·96	2·00	1·74	3·07
Hoyleton	0·43	2·20	1·56	2·13	Ardrossan	0·65	1·62	1·19	2·25
Balaklava	0·42	2·01	1·25	2·02	Port Victoria	0·51	1·56	1·13	2·32
Pt. Wakefield	0·31	2·12	0·96	2·35	Curramulka	0·84	2·01	1·39	1·83
Saddleworth	0·33	2·53	1·56	2·51	Minlaton	0·61	1·74	1·18	1·21
Marrabel	0·46	2·10	1·75	2·60	Stansbury	0·39	1·81	1·18	1·85
Riverton	0·44	2·41	2·06	2·55	Warooka	0·35	1·58	0·92	0·64
Tarlee	0·50	2·16	2·20	2·17	Yorketown	0·34	1·63	1·32	0·62
Stockport	0·38	2·11	1·39	1·94	Edithburgh	0·65	1·85	1·52	1·81
HamleyBridge	0·61	2·20	1·80	2·06	Fowler's Bay	0·11	1·40	0·59	1·13
Kapunda	0·69	2·52	2·49	2·81	Streaky Bay	0·15	1·63	0·67	1·75
Freeling	0·67	2·17	2·12	2·21	Port Elliston	0·49	1·41	1·10	1·66

RAINFALL TABLE (*Continued*).

Station.	For Mar., 1909.	Av'ge. to end Mar.	To end Mar., 1909.	To end Mar., 1908.	Station.	For Mar., 1909.	Av'ge. to end Mar.	To end Mar., 1909.	To end Mar., 1908.
Port Lincoln	0·62	2·07	1·80	0·81	Naracoorte	0·89	2·53	2·24	2·53
Cowell	0·66	1·66	1·24	3·23	Lucindale	1·49	2·36	2·39	3·11
Queenscliffe	0·88	1·72	1·38	0·98	Penola	1·57	3·20	2·96	3·25
Port Elliot	0·74	2·48	1·71	2·36	Millicent	1·54	3·31	3·19	3·41
Goolwa	0·95	2·31	2·01	2·02	Mt. Gambier	2·24	4·02	4·65	4·41
Meningie	0·74	2·21	1·91	2·25	Wellington	0·77	2·21	1·56	3·50
Kingston	0·95	2·45	1·86	1·92	Murray Bridge	0·51	2·07	1·32	2·21
Robe	1·13	2·53	2·07	2·46	Mannum	0·39	1·79	1·43	1·59
Beachport	1·86	3·06	2·92	1·92	Morgan	0·10	1·47	0·74	1·51
Coonalpyn	0·54	2·05	1·76	1·56	O'rland Corner	0·17	1·96	0·45	1·75
Bordertown	0·89	2·17	1·47	1·48	Renmark	0·42	1·73	0·96	1·06
Wolseley	0·68	1·82	1·50	1·31	Lameroo	0·54	—	2·47	—
Frances	0·95	2·18	1·85	2·09					

DAIRY AND FARM PRODUCE MARKETS.

Messrs. W. A. Sandford & Co. report on April 1:—

Weather.—It is now some considerable time since a general rainfall was experienced, and the month just completed was, like its predecessor, a dry one.

Commerce.—General trade was on the quiet side during March, with no special volume of business noted. The change of seasons is chiefly responsible for this, and a good general rain would no doubt give business the briskness desired.

Breadstuffs.—Shipments of wheat have continued heavy in all the States, and the balance available for export out of the 1908-9 Australian crop is estimated as extremely small. Flour has improved to the extent of 20s. per ton, but sales are only moderate.

Fodders.—Shipments of Chaff to Sydney were very light, being only in execution of previously-booked orders. Meanwhile farmers here are holding well on to their hay, owing to the absence of rain, so that it is really a weather market. Mill Offal values have receded somewhat. In Feeding-grains, Victorian buyers operated in the South-East for Oats, whilst also a few parcels of local Algerians found their way to Western Australia.

Potatoes and Onions.—Gambier-grown Potatoes are light of supply, and it is now certain that South Australia will have to continue bringing along extras from elsewhere. The yield in some of the Victorian districts, however, was better than expected, and rains in Tasmania improved the position there of the later crops, so that the markets all round came back considerably in value, but they have now steadied. Onions.—It was thought there was a possibility of extreme rates ruling this season, but the idea has been dispelled on account of the eastern States offering freely for delivery at comparatively low quotations.

Dairy Produce.—A decidedly healthy tone has prevailed, the steady lessening in South Australian butters causing buyers to operate very freely at the auction-rooms, so as to secure as much of their supplies as possible in this direction, and at the sales keen competition was experienced and advancing rates obtained for print butters. To fill the shortages, consignments of New South Wales and Victorian choice factory bulk met with steady clearance, but towards end of March an abrupt lowering in prices took place in Melbourne and also to some extent in Sydney, which upset quotations here for the time being. Eggs.—The seasonable lessening in quantities has resulted in a corresponding firming in selling rates, other markets readily absorbing all offering at the advance. Cheese.—The persistently lower quotations coming along from outside sources interfered with prices here, and rates had to recede. However, the easing had the desired result of increasing the demand locally and also of bringing along substantial orders from Western Australia. Bacon.—Curers for several months have experienced a brisk time, but with a lessening in the demand, coupled with a lowering for the live hog, values had to come back for factory sides and middles, whilst in Hams the enquiry was only limited. Honey.—There has been a shortage of prime-flavoured lines, and such met with speedy quittance, but off-flavoured and discoloured dragged. Almonds.—The new season's crop is now coming forward, and as there is a heavy call, especially for parcels for export, values are decidedly firm.

Live Poultry.—The encouraging feature in the poultry market has been the enhanced values that have generally ruled—that is, for all prime-conditioned table birds—no doubt the better times causing an improvement. Consequently a healthy demand has existed.

Market Quotations on April 1.

Flour.—City brands, £10 15s.; country, £10 10s. per ton of 2,000 lb.

Bran.—11½d.; Pollard, 1s. 2d. per bushel of 20 lb.

Oats.—Local Algerians, new season's, 1s. 11d. to 2s.; White Champions, 2s. 2d. per bushel of 40 lb.

Barley.—Cape, feeding, 2s. to 2s. 2d. per bushel of 50 lb.

Chaff.—£3 10s. f.o.b. Port Adelaide, per ton of 2,240 lb.

Potatoes.—Gambiers, £4 7s. 6d. to £4 12s. per ton of 2,240 lb.

Onions.—From the Hills, £7 to £8; Gambiers, £6 15s. to £7 per ton of 2,240 lb.

Butter.—Factory and best creamery, fresh, in prints, 1s. 1d. to 1s. 2d.; choice separators, dairies, 1s. to 1s. 1d.; medium creamery and poor dairies, 10d. to 11d.; well-graded stores and collectors, 9½d. to 10d.

Cheese.—Factory makes, 6d. to 7¼d. per lb.

Bacon.—Factory-cured sides, 8½d. to 9d. per lb.

Hams.—9d. to 9½d. per lb

Eggs.—Loose, 1s. 1½d. per doz.

Lard.—Skins. 8½d.; tins or bulk cases, 8d. per lb.

Honey.—Prime, clear extracted, 2½d. per lb.; discoloured lots 1½d. to 2d.; Beeswax, 1s. 1d. per lb.

Almonds.—Brandis, 6½d.; mixed soft shells, 6d.; hard shells, 2½d.; kernels, 11½d. per lb.

Live Poultry.—Good table roosters, 2s. 3d. to 2s. 9d. each; fair cockerels, 1s. 4d. to 1s. 9d.; hens and light cockerels, 1s. to 1s. 3d.; ducks, 1s. 8d. to 2s. 3d.; geese, 2s. 9d. to 3s. 6d.; pigeons, 5d; turkeys, 6½d. to 10½d. per lb. live weight, for fair to prime table birds

AGRICULTURAL BUREAU REPORTS.

Edited by W. L. Summers.

INDEX TO CURRENT ISSUE AND DATES OF MEETINGS.

Branch	Report on Page	Dates of Meetings.		Branch.	Report on Page.	Dates of Meetings.	
		April.	May.			April.	May.
Amyton	†	—	—	Meningie	†	3	8
Angaston	803	3	1	Millicent	819	20	18
Appila-Yarrowie	*	—	—	Miltalie	808	3	1
Arden Vale & Wyacca	†	5	3	Minlaton	*	3	1
Arthurton	804	—	—	Morchard	*	14	29
Bagster	*	3	1	Morgan	†	3	1
Balaklava	803	—	—	Morphett Vale	†	20	18
Beetaloo Valley	797	—	—	Mount Bryan	800	5	—
Belalie North	*	3	1	Mount Bryan East	†	3	1
Bowhill	*	—	—	Mount Gambier	†	10	8
Brinkworth	798	13	11	Mount Pleasant	*	9	14
Bute	805	—	4	Mount Remarkable	794	29	—
Butler	806	5	—	Mundoora	†	—	—
Caltowie	†	5	3	Nantawarra	†	—	5
Carrieton	792	29	—	Naracoorte	*	10	8
Cherry Gardens	812	6	4	Narridy	†	10	8
Clare	†	30	—	Northfield	*	6	4
Clarendon	*	5	3	Orroroo	†	16	14
Colton	*	3	8	Paskeville	*	3	1
Coomooroo	792	—	—	Penola	†	10	8
Coonalpyn	810	—	—	Penong	†	10	8
Cradock	793	—	—	Petina	*	—	—
Crystal Brook	†	—	—	Pine Forest	805	6	6
Cummins	806	3	1	Port Broughton	*	30	—
Davenport	793	—	—	Port Elliot	817	17	15
Dawson	793	3	8	Port Germein	*	3	—
Dingabledinga	*	9	14	Port Pirie	800	3	1
Dowlingville	*	—	—	Quorn	795	3	—
Forest Range	*	29	—	Redhill	801	17	15
Forster	*	—	—	Reeves Plains	*	—	—
Fowler Bay	807	3	1	Renmark	*	—	—
Gawler River	804	—	—	Rhine Villa	*	—	—
Georgetown	799	3	8	Riverton	*	3	1
Golden Grove	813	1	6	Saddleworth	*	16	21
Green Patch	†	5	3	Shannon	809	—	—
Gumeracha	814	5	3	Sherlock	810	—	—
Hartley	816	3	—	Smoky Bay	*	—	—
Hawker	*	3	8	Stansbury	*	29	—
Inkerman	*	29	—	Stockport	804	—	—
Johnsburg	794	3	—	Strathalbyn	†	19	17
Kadina	*	3	1	Sutherlands	811	7	5
Kanmantoo	816	30	—	Tatiara	†	—	—
Kingscote	†	5	3	Uraidla & Summert'n	818	5	3
Kingston	†	24	29	Utera Plains	809	3	1
Koolunga	*	6	4	Virginia	*	—	—
Koppio	807	1	6	Waikerie	*	—	—
Kybybolite	†	29	—	Watervale	*	—	—
Lameroo	†	—	—	Wepowie	796	—	—
Lipson	*	—	—	Whyte-Yarcowie	*	3	1
Longwood	816	3	5	Willunga	*	3	1
Lucindale	819	—	—	Wilmington	*	29	—
Lyndoch	817	29	—	Wirrabara	796	—	—
Maitland	805	3	1	Woodside	*	—	—
Mallala	*	5	3	Yallunda	*	—	—
Mannum	810	24	29	Yongala Vale	†	3	1
Meadows	*	—	—	Yorketown	*	10	8

* No report received during month of March.
† Only formal business transacted at the last meeting.

Reports of Meetings.

UPPER-NORTH DISTRICT.

(PETERSBURG AND NORTHWARD.)

Carrieton, March 4.

(Average annual rainfall, 11½ inches.)

PRESENT — Messrs. Manning (chair), Kaerger, Vater, Beerworth, Halloran, Fisher, and Bock (Hon. Sec.).

DRY-FARMING.—Considerable discussion took place in respect to growing wheat on the small rainfall of this and adjoining districts. Reference was made to returns from the Government plot at Hammond, also to a return of 126 bags of wheat—[Small or large?—ED.]—reaped from 18 acres. [Where and under what system of cultivation? Residents in similar localities would like to know how such a return was obtained.—ED.] Mr. Manning said he burnt the stubble, ploughed the land well, scarified, and harrowed it. He sowed it to wheat when the ground was moist, and from 25 acres reaped 225 bags of wheat. Mr. Beerworth condemned Neumann's Early wheat for hay. Mr. Vater mentioned that he sowed one bag of Jonathan wheat on five acres, and after cutting a track for hay all round he reaped twenty bags of a good sample. Mr. Manning said he pickled his wheat with bluestone at the rate of ½ lb. to one bag of seed, and had a clean crop.

Cradock, March 6.

(Average annual rainfall, 10½ inches.)

PRESENT—Messrs. Lindo (chair), Clarke, Hilder, Martin, McAuley, and Richards (Hon. Sec.) and one visitor.

DATE OF CONGRESS.—Members favoured September Show week for Congress, opening meeting to be held on Monday evening.

STOCK COMPLAINTS.—Mr. Lindo tabled hard, calcareous lumps removed from the jaws of a horse. He also referred to the number of cases of sickness amongst cattle in this and neighbouring districts. The trouble was attributed by some to the accumulation of the fur of rabbits in the intestines. Reference was made to continued losses of stock from "dry bible."

Coomooroo, March 1.

(Average annual rainfall, 12 inches.)

PRESENT—Messrs. Brown, Hall, Constable, Brice, Palden, and Kildea (Hon. Sec.) and two visitors.

DATE FOR CONGRESS.—Members favoured opening-meeting of Congress being held on the Monday evening of September Show week.

HORSE-BREEDING ON THE FARM.—Mr. E. Hall read a paper on this subject. During the past few years horse-breeding has been a valuable asset to many farmers. It is, of course, difficult to say how long this will continue, but he thought there would be a good demand for horses as long as Crown lands and repurchased estates were being offered in large areas. Many farmers overlook the fact that it costs no more to feed a good stamp of horse worth £30 to £40 as a four-year-old than one worth only £20, the only difference in the outlay in rearing being an extra pound or two for the service of a good draught stallion. Many farmers keep an inferior stallion, and let it run with their mares, and although they think they save money on service fees they are big losers in the long run. Some farmers have trouble with the mares slipping their foals, but although he bred a few every year he had only once experienced loss in this way. He provided a separate stall for each horse, and usually tied the animals up to prevent them kicking or fighting with each other. In many stables seven or eight horses are crowded to a manger large enough for only five horses, and they naturally fight with one another, and he thought this was the cause of many mares slipping their foals. He always gave his mares light work to within about two weeks of foaling. Mr. Brice did not think the high rates ruling for horses were likely to continue. Mr. Brown, however, agreed with Mr. Hall that owing to the strong demand both for local use and for export the prices were likely to hold.

Fertilizers.—Some discussion on the use of fertilizers took place. Mr. E. Hall had found that a mineral super gave better results than guano. He had used different brands of mineral super, but could not see that one was better than another, except that sometimes the imported was more sticky and troublesome to drill than the local. Mr. J. Brown liked the Wallaroo super, as it worked nicely in the drill and gave good results. Guano had not given such good results. Mr. Constable thought the imported better, although it gave more trouble in the drills. The majority of the members favoured Wallaroo super.

Davenport, February 18.

(Average annual rainfall, 9 inches.)

Present—Messrs. Bothwell (chair), Holdsworth, Hobby, Bice, Messenger, Gosden, and Lecky (Hon. Sec.).

Castration of Colts.—A paper was read by Mr. Hobby on this subject. The right age and time of year for this operation was a matter upon which opinions differed widely. It was possible to perform the operation on colts fifteen days to fourteen months after foaling. This period was sometimes recommended because there was little lust and less pain. The writer did not like this time, except in the case of a carriage horse, which should be castrated when twelve months old. Heavy horses should be from eighteen to twenty-four months old. Earlier castration than this resulted in thin neck and shoulders, which would not have been the case had the colt been left till 2½ years old. The best time of the year for castration was September. Cold winds and frost were dangerous. A strong rope to withstand the kicking was necessary for throwing a colt. It should be 40 feet long, with a loop in the middle. This loop or collar was placed over the colt's head, with the knot as high up on the wether as possible. Having a rope now on both sides of the horse, it was placed round his hind fetlock and then through the collar, when a pull will bring him down. The horse should be left lying on his side, with ropes as slack as was consistent with safety. The clams should be handy, and taking the testicle with the left hand the incision was made. The horse was sure to struggle, but on no account must the operator pull or draw. It was better to let the testicle go than to pull, as pulling was the cause of many deaths. The writer had done most of this work in that district, and had never had a death as the result of unskilful cutting. He made it a practice never to bind tight or draw.

Dawson, March 6.

(Average annual rainfall, 10½ inches.)

Present—Messrs. Renton (chair), Dunn, Smith, W. and J. Wilson, Quinn, Hughes, Baker, Warner, and Hodges (Hon. Sec.).

Marketing Wheat.—Some discussion on this subject took place. Members expressed dissatisfaction with the Chapman sack, and while admitting that the old sacks were often too heavy when filled, the new sacks should be enlarged to hold at least 200 ℔. Mr. Renton was of opinion that marketing wheat in bulk would under local conditions prove too expensive. Mr. Warner thought the standard should be fixed earlier in the year.

Horse-complaints.—Mr. Smith reported the death of a horse from stoppage of the bowels. On being opened the bowel was found to be blocked with a large lump of felted material like silver-grass. Injections had been tried without success; there was a contraction rather than protrusion. The substance was not the ordinary cotton ball. It was mentioned that a number of good horses had died rather suddenly in the district of late.

Congress.—Members favoured Congress being held the week before the September Show.

Johnsburg, March 6.

(Average annual rainfall, 9½ inches.)

Present — Messrs. Read (chair), Dunn, Smith, Potter, Brook, and Chalmers (Hon. Sec.).

Date of Congress.—Members favoured holding Congress during September Show week, starting on the Tuesday morning instead of Tuesday evening, as at present.

Water Conservation.—Mr. J. Read read a paper on utilization of available water supplies for irrigation to the following effect:—"I have felt convinced for a long time that we farmers in these areas outside the rainfall line are not making the best use of the gifts that Nature has provided. We have a soil and climate capable of growing anything suitable to a temperate climate, but we have not a sufficient and reliable rainfall. Yet we have done little or nothing to assist Nature by conserving the rains that do fall. I am pleased to see that the dry-farming experiments at Hammond were such a success, and if anything like as good results are secured after further experiments, then a much brighter future can be confidently predicted for the Northern farmer. Then, again, I think a great deal might be done by cultivating land in low-lying places, and by throwing up embankments which need not be very costly, if done with scoop and plough; we could grow some heavy crops of fodder, which cut and stacked would be a great help in times of scarcity. Here are also places where dams could be constructed to conserve large quantities of water, with good holding ground and large catchment areas, and although this would be more costly yet I am firmly convinced it would give a capital return for the outlay. The blockers in Orroroo on the water-scheme have to pay £25 a year rent for a ten-acre block, which if capitalized at 5 per cent. means £500, to which must be added fencing, building, laying water on, etc. There are many places here where small areas could be irrigated much more cheaply than this by sinking large dams, and with windmill and receiving-tank the cost of laying water over, say, an acre would not be very great. And what an inestimable benefit an acre of well-watered lucerne would be to the dairy-farmer during the drier months of the year, whereas without he often during several months of the year is getting very little return from his dairy herd—hardly sufficient to pay for the labour. With a small amount of greenfeed in addition to the natural herbage he could keep his cows in good milk during the drier months of the year and reap a rich reward. Then, again, we have on this Johnsburg plain a splendid flow of underground water at no very great depth, which I believe will be found suitable for irrigation. The farmers in the southern portions of the State have found out the benefit of bringing this underground water to the surface and utilizing it on the land—some of them at very great expense—and have reaped a rich reward for their enterprise. I believe that in many places on the Adelaide plains as high as £50 an acre has been paid for the land [and up to £100.—Ed.], and they then sank wells, erected engines to raise the water, and by irrigating have received splendid returns. If this can be made profitable after paying such enormous prices for the land, how much more should it do here, where the land is cheap, yet soil and climate suitable? I do not wish to pose as a prophet, yet I venture to say that the time is not far distant when these underground rivers of water will be brought to the surface, and be utilized to produce food for man and beast. Under such conditions these Northern areas, which are now sparsely populated, will carry a very much larger number of people and be a valuable asset to the State." A long discussion ensued, members being agreed that by conserving water on the higher ground, whence it could be conveyed by gravitation to the areas to be irrigated, the growing of greenfeed could be made profitable. It was, however, considered too costly to raise the water to any height by pumping.

Mount Remarkable, March 4.

(Average annual rainfall, 21 inches.)

Present—Messrs. Yates (chair), Casley, Foot, O'Connell, Bauer, George, and Catt (Hon. Sec.).

Belts and Pencils.—Mr. T. Casley read an interesting paper on this subject, in which he dealt with the many uses to which a good belt could be put in time of emergency. He also referred to the use of the lead-pencil. Every farmer should carry a piece of pencil; in case of bad memory, when he sees something that wants doing, he should write it in his pocket-book or on a small piece of clean white paper. It is handy to sketch anything one may see in the form of new ideas, as one often forgets if a note is not taken at the time of observation. Many a patent has been improved upon by the use of the pencil. A pencil is very handy for the purpose of noting down any damage to fences, harness, or implements; any attention needed for stock; oil, paint, timber, tools, nuts, rope, or similar things wanted; a horse to be shod or a fence or a gate to be repaired. It is useful for making a note of an appointment to be kept and for marking iron (for the latter purpose a piece of brass is often used). I remember on one occasion, when travelling through some strange and thickly-timbered country and when two companions and myself were pretty well bushed, we came across a man that knew the run of the country we were in. He directed us to a nicety with a sketched plan, and showed us every turning, road, and fence for miles till we again struck the main road and civilization. Although I have tried to explain in this paper a few of the uses of a belt and pencil, many a time when needed I have not had the requisite article with me.

Quorn, March 6.

(Average annual rainfall, 13½ inches.)

PRESENT—Messrs. Thompson (chair), Noll, Rowe, Cook, Finley, Schulze, Twopenny, Brewster, Smith, and Patten (Hon. Sec.).

DATE OF CONGRESS.—Members favoured September Show week for Congress, with the opening session on the Monday evening.

DESTRUCTION OF RABBITS.—Mr. Cook read a paper on "The Best Way to Destroy Rabbits, and Will it Pay to Do so?" He contended that it would pay landholders to destroy the rabbits not only on account of the crops and feed that would be saved, but also because the skins would bring in more than the cost of their destruction. The best way to deal with the rabbits was to erect netting round all waters the rabbits can get at during the summer months, running out wing-fences and erecting small yards at the junction of the wing and main fence with a funnel entrance made of netting. Where the rabbits are in burrows, make a circular netting-trap 9 in. in diameter at the small end, 11 in. at the large end, and 3 ft. long; have inside at the small end a swingdoor opening inwards, and insert the trap in the entrance of the burrow. He had known seven to be caught in one of these traps. Blocking the burrows with straw sheaves tarred at the end was effective in destroying the rabbits, but in this case no skins are obtained. Another plan that can be adopted is to erect small netting-yards where the rabbits are plentiful, and place a tin of water in the yard. Keep the netting clear of the ground for a few days, then secure it, but leave an entrance. He had known as many as 380 rabbits caught in one night in this way. In regard to returns from the skins, two boys had in a few weeks during 1907 obtained skins which they sold for £5 8s., while during the period from December 4, 1908, to January 9, 1909, they had destroyed over 11,000 rabbits, the skins of which realized £30 5s. The cost of netting for yards and trap came to £2 10s. in the two years. He also knew of two men who at intervals during the past two months had caught, mostly in yards where water had been placed, over 3,000 rabbits, and had realized nearly £10 for the skins. Poisoning water to which rabbits have access is probably the least troublesome method of dealing with the pest. Mr. Brewster thought the system outlined by Mr. Cook was better than using poison, as with the latter there was too much risk of stock being poisoned. Mr. Twopenny preferred poisoined baits; poisoning the water was not always a success, as it was sometimes difficult to get the rabbits to touch it. The Hon. Secretary had satisfactory results from fumigating in the burrows, but the skins, of course, were lost. Mr. Rowe advised wire-netting and destroying the rabbits inside the farm. He would like to know the best antidote for cattle poisoned by phosphorus. [The Veterinary-Surgeon states that as an antidote up to 2 oz. bluestone in a little water or 2 oz. of turps is recommended, as it renders the phosphorus insoluble. This, however, is only effective if given immediately after the poison is taken. At a later stage all that can be done is to give a sedative, such as 1 oz. chlorodyne in a pint of water every four hours. Immediate treatment is the chief hope.—ED.]

Wepowie, March 9.

(Average annual rainfall, 12 inches.)

Present—Messrs. J. Orrock (chair), T. and A. J. Gale, Fuller, Pearce, Chrystall, and T. Orrock (Hon. Sec.) and two visitors.

Lampas.—The Hon. Secretary read article on this subject from *Journal of Agriculture*. Mr. A. J. Gale did not believe in lancing; burning, properly done, did not cause much pain, and he had seen horses eating their food shortly after the operation without any apparent discomfort. Mr. T. Gale thought burning was often resorted to when quite unnecessary.

The Campbell Subpacker.—The Hon. Secretary wished to know when to use the subpacker; after the plough at fallowing or only after the plough at seedtime. Members thought it should be used immediately after ploughing at whatever period of the year the plough is used. [This is so; Campbell says: "Keep the packer right behind the plough. Finish packing before knocking off for lunch, and again before finishing work for the day." —Ed.]

Federation Wheat.—Mr. Fuller asked whether this wheat was liable to "shake". Mr. A. J. Gale had grown it for two years, and though very easy to thresh he had not seen any sign of shaking. [Federation will shed its grain a little while in the dough-stage, but at any later period it is remarkably free from this defect.—Ed.] Mr. Orrock said his horses were very fond of Federation hay, and he thought it would pay to cut with the binder, and head it to secure a stack of straw for feeding-purposes.

Rebranding Sheep.—Members wished to know whether the law in respect to sheep-brands was the same, in matter of positions for brands, as it was with horses and cattle. If a man bought sheep which were branded on his allotted position, where should be put his brand? [The Chief Inspector of Stock replies:—"Sheep-brands are all registered for one of the four positions, namely:—No. 1, Top of Shoulders; No. 2, Near Ribs; No. 3, Off Ribs; No. 4, Rump. A sheepowner who has a brand registered, for instance, for the off ribs, or third position, cannot place his brand on any other position. Should a sheepowner on purchasing sheep find that the registered position for his brand is taken up by other brands, he cannot brand the sheep, but can use as a distinguishing brand any number from 2 to 9, inclusive, in any colour, on any part of the sheep, provided that he does not deface another brand."]

Wirrabara, March 13.

Present—Messrs. P. Lawson (chair), Lomman, W. and J. and W. H. Stephens, C. and J. Hollett, Curnow, Hunt, Hoskins, Passow, H. Lawson (Hon. Sec.), and three visitors.

Date of Congress.—Members favoured holding Congress the week before September Show.

Apple-tests.—Mr. Curnow gave the following very instructive paper on this subject:—"During the last twenty years the cultivation of all varieties of fruits has made rapid headway. Years ago, when only local markets were available, many sorts were grown which have since proved of little value. Formerly growers planting out an orchard paid little or no attention to future developments, and varieties that would suit only local requirements were considered good enough. This policy has now been reversed, the export trade having forced growers to plant only first-quality fruits in limited varieties. These remarks apply principally to the apple-growing industry. Even ten years ago many growers failed to realize that it was more profitable to grow a few good varieties in large quantities than to plant a great number of varieties of inferior fruit. These men now realize that even in good years there is difficulty in getting together a fair-sized shipment of one variety. The writer is one of these, and can therefore give a little of his experience that may prove of advantage to others. When planting originally, a serious blunder was made in putting in quite a large number of trees of certain sorts that had not been tested in the district, many of which proved useless. Amongst these may be mentioned Ribston Pippin, which produced a hard, woody fruit of a dirty yellow colour, and was but a poor bearer; Reinette du Canada, a large, dirty-brown coloured fruit, a fair cooker, but poor bearer; Sykehouse Russet, a small, inferior sort, quite worthless; Cornish Aromatic, a fair-sized, well-coloured fruit, but not a good keeper, as it withers badly a few weeks after picking. Of other varieties, Adam's Permain is a good, medium-early apple, striped, and highly coloured; the fruit is sometimes small in a dry season. The record price for this district was obtained by the writer for this sort four years ago, namely, 22s. 6d. per case gross, in Hamburg. Ben Davis is an ordinary cooker of fair quality, striped, and a good keeper. This is the leading apple in the United States, and has been planted in millions. Ruby Permain, a small, long-keeping variety, is green in colour, even when ripe, and is a good bearer. Prince Bismarck, a good, old, cooking-variety, will grow to an enormous size if given first-class soil and a little moisture. Annie Elizabeth is a good, late, eating-sort; fruit is generally large and very prettily striped—a good keeper. Webb's Winter, an old variety; good, solid keeper, slightly Permain-shaped; will colour well on its sunny side, but is quite white, spotted with brown on the shaded side. Blenheim Orange is a large yellow cooker, and a fair keeper. The tree is a sturdy grower. Rockwood is without exception the best long-keeper grown in this district; it is well-coloured, but is liable to produce small fruit in dry years. Scarlet Nonpareil, a beautifully-flavoured apple, is well coloured, and a good keeper. This variety does well in the forest, but is prone to overbear. Winter Majetin is an ordinary cooker of no special merit. Nickajack, a large, solid, striped eating-apple of good quality, will keep till September, but is a shy bearer until ten or twelve years old. Dumelow's Seedling bears a very heavy fruit, clean, shiny, and striped, and is the best for making jelly. Lord Wolseley, very solid variety, is quite white in colour, and liable to the glassy appearance common to some other kinds; it is a splendid cooker and keeper. The well-known Cleopatra, Jonathan, Rome Beauty, Dunn's Seedling, and a few others, need no comment, as they are too well known in this district to warrant any notice in this paper. In conclusion, while it may be unwise to plant too many sorts of an untested character, yet it would be a short-sighted policy never to try any new kinds. Improved varieties of all sorts of fruits are always being introduced. Some sorts have extreme earliness as a recommendation, others their size, and still others their lateness. Many new kinds have good features, and therefore growers who want to keep up to date must make careful tests before planting extensively any new sorts.'' Mr. Curnow was thanked for his excellent paper, which was fully and favourably discussed by various members.

Codlin Moth.—Mr. Lawson said he thought he had discovered a way to kill this pest. Last year, in addition to the moth in his garden, the ants were very troublesome. Mr. Lawson mixed up honey and arsenic, and smeared the mixture round the butts of the trees. To his astonishment the codlin moth as well as the ants were destroyed. This year a thorough inspection has failed to reveal any codlin or even fruit eaten by them.

MIDDLE - NORTH DISTRICT.

(PETERSBURG TO FARRELL'S FLAT.)

Beetaloo Valley, March 1.

Present—Messrs. A. Cook (chair), Burton, Bartrum, Petrie, Fradd, Bird, Ryan, and P. Cook (Hon. Sec.) and two visitors.

Date of Congress.—Members favoured September Show week for Congress, opening on Monday evening.

Stock-raising.—A paper as to whether stock-raising would pay in the district was read by Mr. J. Murphy:—"One of the most important items to farmers and producers in this district is the most profitable manner in which to dispose of their produce. Although in past years it was the practice of the average farmer to raise just sufficient stock to keep his flocks and herds up to the regular number, the advent of better prices for nearly all kinds of farm-stock has induced farmers to go in for stock-raising on a more extensive scale, it being generally found more profitable to raise stock and feed it with the produce of the farm than to sell it direct. I have heard the opinion expressed that this district is not adapted to the raising of horses and cattle, but this is generally said by farmers who have migrated from the plains, and have been disappointed at finding their stock harder to keep in condition than formerly. I admit that this is generally the case, especially with old stock. But take horses that are bred in this district and compare them with those bred on the plains, and the result will nearly always be in favour of the former. They are stronger in proportion to their size, are more surefooted, hardier, and will do well when transferred to the plains. The same thing applies to working bullocks, but as regards milking cows the plains are the most suitable. Young cattle will do well on the natural grass all the year round, athough it is advisable to give them a little hay or chaff during the cold, wet weather when grass is scarce. Care should be taken not to stunt the calves; a little boiled linseed in their milk is a very good thing, also a plot of green fodder if available. Young horse-stock should have a little hand-feeding during the coldest months of the year, although many excellent horses have been bred in the district on the natural grass only. Draught horses seem to be the most profitable breed at the present time, and they are also most convenient for the farmer to breed, as he has frequently more draught mares than light mares available to breed from. It costs, say, £5 to obtain a good draught foal; that is, 30s. for time lost by the mare and for extra feed, and, say, £3 10s. for service of the sire. The services of several excellent sires can be obtained for less than this, but allowing for mares missed, £3 10s. is a fair thing. Then as regards feeding, while being weaned the foal should have the best of feed and water. After about a month the foal can be turned into a paddock during the day, and put in the stable and fed at night. During a part of the year, say, from the end of March to the end of August (five months), the young horses should get a little hand-feeding, say, a ton of hay for each colt for the five months, which works out at nearly 15 lb. per horse each day. This should be given at a regular hour each day, and the horses not allowed to stand about the yard all the day. The colt when three years old would cost about £18, namely:—Cost of foal at time of foaling, £5; cost of feed for first twelve months, £3 10s.; two years' paddocking at 1s. per week, £5 4s.; and two tons of hay at £2 per ton, £4; or a total of £17 14s. A horse fed in this way, and three years old, according to present price of horses, should be worth well over £30, which allows a good margin. I do not think I need say anything about sheep, as the district has proved itself, especially for wool-growing and lamb-raising. Pig-raising and poultry-farming have also proved profitable in the district, being well watered, with plenty of natural shelter, and free from the diseases to which pigs and poultry are subject."

Brinkworth, March 9.

(Annual average rainfall, 14½ inches.)

Present—Messrs. Davis (chair), Wood, Stott, Rowe, Horrocks, Morrison, Adams, Brinkworth, Krieg, McEwin, and Hill (Hon. Sec.) and seventeen visitors.

Takeall.—Mr. J. A. Horrocks read a paper on this subject to the following effect:—"Takeall is a popular name which has been misapplied on various occasions. Whenever a few wheat-plants have been noticed to die off in more or less circular patches, they are said to be affected by takeall. It is generally noticed that these patches of wheat that have died off were more common upon light, sandy soils than on the heavier type of soils, such as clays; more common in crops that were grown on stubble than on fallowed land; and far more common where wheat followed wheat than where it followed a crop of another sort. What has been described as takeall in most cases was simply the result of a bad, hollow seedbed. The land being light and loose had been badly tilled, and finally the plants had died from root-failure. In other instances eelworms and grubs were held to be responsible. The name takeall should be restricted to a well-defined fungus disease, which is known as the 'Wheat-stem Killer' *(Ophiolobus graminis)*. The action of the parasite upon the wheat-plant is as follows:—In the spring a portion of the crop will appear weakly and badly developed, and will be noticed to gradually die out in circles, the plants being strong and healthy on the outside of the circles, but you may find numerous whiteheads round about. Upon examining a plant affected by this disease the lower node is found to be blackened in places, and if the lower sheath of the leaf is taken off the stem the stalk is covered with black pustules. The straw is found to be rotten in most cases, and the whole tissues of the part of the plant that is attacked will be found to be perforated by the mycelium of the parasite, while the spores fall on to the ground and contaminate a succeeding crop. Whiteheads are caused in a crop by the same fungus, as upon examination the plants attacked are seen to have the same symptoms as those attacked earlier. Whiteheads are plants which have been nearly fully developed before they are attacked by the fungus, which then has the effect of drying them up; they may be found scattered about in the crop, probably caused by the fungus being carried and scattered by nature's help. It has been found that besides wheat there are various grasses liable to this disease, a fact that must be recognized when dealing with takeall. Upon pulling up a wheat-plant, which has been affected by takeall, the first thing, or one of the first things, which greets the eye is the lack of a sufficient root-system, which would be necessary for the growth of a vigorous plant. Perhaps, on examining the soil from where the plant was pulled up, a grub or two, or perhaps some white ants, may be found. The investigator, finding these worms or grubs. and possibly the white ants, where the roots should have been, naturally concludes that they eat off the roots and destroy the plant. I think the prevention or cure for takeall has been found to exist in the oat-plant. It is known that the parasite will not attack the oat, hence it is recognized that the fungus may possibly be killed by starvation in the following way: —Land which was previously sown to wheat and has had the stubble burnt off—as in burning a great many of the spores will be killed, though a number always will escape—cultivate up this land and sow a thick and early crop of oats, so that the crop may get a good start, and, being thick, choke back the growth of weeds and grasses. The oaten stubble should again be burnt off and the land treated next year as a bare fallow, taking care to keep it free from weeds, so that the parasite will have as little as possible to live upon. In this way it is hoped to check the ravages of this parasite. Artificial manures should be used in preference to stable manure, as the straw used as bedding for the horses in the stable may still have some of the spores on it. This point may raise another question: If we fail to use farmyard manure or to feed off the stubbles with stock, what is to supply the indispensable humus to the soil? The plant requires a certain amount of humus in the soil to thrive, because it is by the action of the soil bacteria upon the humus that the plant gets its supply of nitrogen. This deficiency of humus would have to be made up, and if what is known as green manuring was resorted to, it would be easily got over. We must keep before us the necessity of having a supply of the necessary plant-foods in the soil in the right quantities, whatever else we do, because without all of them being present the crop would be a poor one; so that whatever we do in connection with destroying this fungus-disease we must not neglect the manuring of our lands, as they may become deprived of their fertility through so doing." The paper was much appreciated, and led to a good discussion. The general opinion was that takeall was largely the result of climatic conditions—especially unfavourable conditions as the crop is coming to maturity—and that no definite preventive treatment could be adopted, though sowing oats on takeall-infested land was recommended.

Georgetown, February 6.

(Average annual rainfall, 18 inches.)

Present—Messrs. A. Hill (chair), G. Hill, Fogarty. Higgins, Brogan, Millard, Thomson, Bond, McAuley, McDonald, Allen, Smallacombe, J. and B. Myatt, Stewart, and Eyre (Hon. Sec.).

Early Greenfeed.—Mr. M. Bond read a short paper on this subject. May and June being the worst months in this district for feed, the question is whether anything could be grown to help the stock over these cold and frosty months. He would suggest sowing now rape and white mustard seed mixed, about 4 lb. of each, on any land on which the crop has been cut for hay the last season. He preferred hay-ground to burnt stubble. Most farmers do not like fallowing for a crop of this kind, although he was satisfied it would pay to do it as well as for any other crop. If greenfeed is sown on hay-ground the land can be fallowed later on in the season for the following wheat crop. Cultivate for the greenfeed crop as shallow as possible, taking care, however, not to slip over any; it would be all the better harrowed and rolled. With a good early rain all kinds of seed would get a good start, and one acre would grow as much feed as ten acres not worked up. Barley is another early feed, but the following wheat crop would suffer as much as it does after sorghum. From his experience he considered sorghum sown on fallow takes about eight bushels to the acre off the wheat crop sown after it.

Georgetown, March 6.

(Average annual rainfall, 18 inches.)

Present—Messrs. King (chair), McAuley, Higgins, Thomson, Smallacombe, Hill, Inglis, Fogarty, and Eyre (Hon. Sec.).

Date of Congress.—Members were in favour of commencing on Monday evening in September show week.

Horse-breeding.—A paper read at a previous meeting was discussed, and the general opinion was in favour of breeding from the heaviest class of draught procurable, and from the best stallion available.

Caltowie Conference.—Mr. J. McAuley gave a full and favourable report on the Conference. He considered the information given to be very valuable.

Mount Bryan, March 8.

(Average annual rainfall, 15½ inches.)

Present — Messrs. Beckwith (chair), Dunstan, Caldecott, Hoffman, Collins, Schoenburg, Nutt, Schmidt, and Kelly (Hon. Sec.).

Date of Congress.—Members were in favour of first meeting being on Monday night in September Show week.

Pig-raising.—A paper was read by Mr. Caldicott dealing with this subject, and figures were given to show that, when properly handled, keeping pigs paid. The figures representing the writer's dealings in pigs for the year 1908 were as follows:—Value of pigs on hand, £7 15s.; cost of feed, £9 12s. 11d.; pigs bought during the year, £7 16s.; making a total outlay of £25 3s. 11d. Amount received for sale of pigs, £18 9s.; value of pigs on hand at end of 1908, £17 12s.; total, £36 1s., showing a net profit for the year of £10 17s. 1d. In the writer's opinion the right kind of pigs to keep was pure Berkshire. These were very hardy and grew at the rate of 20 lb. a month with little more than ordinary fare. They produced more meat than fat, a great improvement on the old-fashioned bacon-pigs with their six inches of oily fat. As with other stock, it was most profitable to buy well-bred animals. They ate less and grew more than mongrels. A gentleman in that district had found he could keep twelve Berkshire pigs where he could keep only six mongrels. The writer could endorse that. He had placed a litter of pure Berkshires with inferior pigs double their age, and all had fed from the same trough. The result had been astonishing. The pure-bred animals had soon quite outclassed the others in size and condition.

Port Pirie, March 6.

(Average annual rainfall, 12½ inches.)

Present—Messrs. Wilson (chair), Stanley, McEwin, Noll, H. F. and E. B. Welch, Finnigan, and Wright (Hon. Sec.).

Agriculture Lectures.—Chairman reported that great interest was being shown in the course of lectures on agriculture being delivered by Mr. A. E. V. Richardson, B.A., B.Sc. (Assistant-Director of Agriculture), under the auspices of the Branch.

Lambs for Export.—Mr. E. J. Hector read the following extract from the *Pastoralists' Review*:—"The following is the result of experiments conducted by the New Zealand Department of Agriculture:—Of 270 ewes seventy were pure Border-Leicester. Of these forty were mated to one ram and gave 117 per cent. of lambs; thirty were put to another ram and gave only 75 per cent. of lambs. Of fifty crossbred rams each was mated to one of the following pure-bred rams: Border-Leicester, English-Leicester, Shropshire, and Southdown. The percentages of lambs were as follow:—Border-Leicester, 120; English-Leicester, 128; Shropshire, 126; and Southdown, 130. All the ewes had practically the same treatment. On January 10 all the lambs were weaned and put on rape until February 4, when the fats were drafted out and sold at schedule prices to the Wellington Meat Export Co. The draft consisted of fifty-one Southdown crossbreds, are rare line of freezers, excellent in colour and conformation; forty-nine Border-Leicester crossbreds, a rather coarse type of lamb, with heavy carcasses of tallowy appearance; fifty-two English-Leicester crossbreds, a good class of freezer, but not so bright a quality as the Southdown; forty-seven Shropshire crossbreds, a good class of freezer and of the same bright quality as the Southdowns. The Border-Leicesters averaged 15s. 3d. per head; the Shropshires, 14s. 5d.; the English-Leicesters, 14s. 0½d.; and the Southdowns, 14s. 3d. per head. The Southdowns gave 96 per cent. of freezers; the Border-Leicesters, 93 per cent.; the Shropshires, 89 per cent.; and the English-Leicesters 86 per cent. Notwithstanding the leading position of the Border-Leicester crossbreds in topping by 10½d. the other breeds, the Company considers it the coarsest of the four."

Redhill, February 9.

(Average annual rainfall, 16½ inches.)

Present—Messrs. Dawson (chair), Lithgow, Roberts, Coffey, and Dunsford (Hon. Sec.).

Co-operative Shearing.—Mr. M. Coffey read a paper on this subject to the following effect:—"That something in the shape of co-operation in shearing-operations is needed is becoming more manifest everywhere, largely owing to the difference between labour conditions as existing at the present time and what they were a few years ago. Some half-dozen years since it was quite an easy matter to secure a really good class of men at a few days' notice and at a fair and reasonable figure, but for various reasons the same conditions do not exist at the present time. Quite a number of those men who made shearing a profession, and who would gladden the hearts of the employer with the excellence of their work, are now completely out of the running, many of them having secured land and made homes for themselves, and others, again, owing to high wages offering, have taken on constant employment as general managers and farmhands. Therefore it would appear not only possible but highly probable that difficulty in regards to finding suitable men in the past will very likely be more acute in the near future. Perhaps it will be said 'there are always young men coming on to take the place of those who drop out.' This, however, can hardly be said to be the case, because there is not the same need to take on shearing now that there was a few years ago, and the few who do take it on are more inclined to adopt the machine-shearing, which small growers with only a few sheep and limited means cannot afford. 'The Employers' Liability Bill' has also opened up in connection with shearing a wide track towards litigation. All things considered, we are forced to the conclusion that where it is possible to effect an improvement in any way, with at the same time a less amount of responsibility, it would be wise and prudent to adopt it. Farmers, perhaps more than any other class, are very cautious of anything in which there is any element of co-operation. This can scarcely be wondered at, when we remember the many instances in the past where all-too-confiding agriculturist has been the victim of some artful swindle. However, all will allow that when cases of the sort alluded to have occurred in the past, and where shareholders have been sold, it has not been because co-operation is wrong in principle—for that could never be—the very essence of co-operation being the 'banding together of individuals with like interests and with a common object in view.' This put into actual practice, as in the case of co-operative shearing, must undoubtedly work in favour of the shareholders. Let me as briefly as possible lay down the lines on which co-operative shearing might be established. Let us say there are twenty small growers, owning between them 10,000 sheep, who agree to co-operate for this purpose. It will first be necessary to elect a committee of management consisting of, say, ten of their number. The first step will be the selection of a site for the depot. Should there be a suitable building already in the district it might be secured for a commencement. There are 'Contract Companies' in the State which would be willing to take on the contract of shearing. One with which I have had correspondence on the matter is willing to rent a shed in any part of the State where the growers wish it to do so, and where it is guaranteed not less than 10,000 sheep. The company would find all necessary machinery and men, including woolclasser, shearers' shed hands, and even the cook, at a cost of 6¾d. per head on the sheep shorn, or if the engine is provided by the growers the charge per head is only 6½d. The company will put on sufficient men to shear and handle the wool of not less than 500 sheep per day. There does not seem anything very impracticable in all this. In fact there is really nothing to make anyone hesitate, once the question of a suitable shed is decided upon. It might be argued that everyone would perhaps want his sheep shorn at the same time. This point could easily be decided by drawing for places, it being optional with the growers afterwards to change places with one another should it be more convenient; otherwise the ballot would be strictly observed. In regard to the question of 'Will it pay?' let us consider for a moment. Wool is sold at per ℔. If we allow an average of, say, 8 ℔. of wool to each sheep-grower who has a really good class of sheep would, if it is properly sorted, realize, say, 9d. per ℔. for his wool, but owing to faulty preparation it brings only 8½d. It is clear therefore that the owner has lost to the extent of 4d. per sheep, or a loss on his flock of 500 sheep of £8 6s. 8d. It will be argued that this case is purely imaginary and cannot actually be proved. Well, perhaps it is. But there is a truism, accepted the world over as being correct, and that is 'Every man to his trade.' Would it be reasonable to expect the man who perhaps handles wool only during the time his own sheep are being shorn to prepare a clip of wool likely to command as big a price as would the man who has had a thorough education in such matters and knows the exact requirements of the world's markets? Woolclassing is generally admitted to be an intricate business, and we may rest assured when woolbuyers are operating in the Australian markets they are not asleep—the very slightest irregularity in the preparation of the clip will be sufficient to deter them from bidding for that particular clip, or from giving full value for it. There is, perhaps, a bale of wool containing sixty fleeces, fifty of which suit a buyer's ideas to a nicety, the other ten comprising a class of wool he has strict orders not to buy at any price. Is the loss to that grower, owing to faulty sorting, likely to stop at ½d. per ℔.? Under the co-operative principle, with an expert classer in charge, it would mean that the various small lots would be got up in a uniform manner, which certainly would be an improvement. All lots so got up could—if desired—have a certain distinguishing mark placed upon it, such mark being for the purpose of certifying that the clip had been prepared by the company's expert. I am sure the increased price resulting would more than pay the whole cost of shearing. Let us see what the actual cost of shearing 500 sheep on the farm at the present time amounts to. The charge for shearing is as nearly as possible 3d. per head; add to this the cost of boarding the men, the extra hands required to prepare the clip, extra worry and work for the domestics, and it will amount to more than the charge made for the whole operation of shearing and preparing the clip by the contract company. In addition there is the yearly cost of getting your own shed ready for work, and also the loss due to the team or teams idle during the time that shearing is in progress, for it is nine chances to one all teams have had to knock off during this period, and this at the very time of the year when it is most desirable to keep them going on the fallow. The fact of the team being idle very possibly means a loss of many pounds on the following harvest." Paper was well discussed. Members were generally of opinion that the time was not far distant when the system of co-operative shearing would be generally adopted. They were of opinion that the advantages derived from the proper preparation of the clip and uniformity in classing would more than recompense growers for any little disadvantages that the system might possess.

LOWER-NORTH DISTRICT.

(ADELAIDE TO FARRELL'S FLAT.)

Angaston, February 27.

(Average annual rainfall, 21½ inches.)

Present—Messrs. Ball (chair), Friend, Player, Waters, Thorn, Wishart, Roberts, Sibley, Salter, Smith, Stevens, Swann, and Matthews (Hon. Sec.), ten members Lyndoch Branch, and eight visitors.

Inspection of Orchards, etc.—A few months previously the members of the Angaston Branch accepted an invitation to Lyndoch, and the present gathering was the return visit paid by the Lyndoch members. An interesting tour of the district had been arranged, and was greatly appreciated by the visitors, many of whom were strangers to the district. Collingrove was first visited, and the extensive and well-kept gardens were inspected. The vegetable garden, orchard, greenhouses, and flowers, which were all looking well, were greatly admired. After a look at the horses and commenting on their good qualities, a move was made to Evandale, the property of Messrs. Evans Bros. Here fruit-growing and fruit-drying are both carried on on a very extensive scale. The visitors were greatly impressed with the completeness and the magnitude of the drying-works. Four Eureka paring- and coring-machines were in operation, each being attended by one man, who feeds the machine as fast as he can handle the fruit. These men acquire wonderful quickness, and it was stated in reply to enquiry that the previous day three machines treated forty cases in an hour. From the machines the fruit passes on to tables, where girls remove any skin or core which may have been left, after which the fruit goes to the slicers, and thence to the evaporators. There are five evaporators, each carrying twenty-two trays of fruit. To secure an even distribution of heat through the fruit, it is directed against an even surface, and then through different pipes to the evaporator. On reaching the first floor over the furnaces, the operation of putting the trays in the evaporators was witnessed. The idea is an ingenious one, the tray being pushed in through a door, which falls as soon as the tray has passed, and is held on four ladders, one at each corner. These are in duplicate about 6 in. apart; the stops on the ladders move upwards when lifted, but fall again when not sustained. The tray being pushed in on to the first set, is lifted by means of a windlass arrangement, and when it has passed the set of stops on the duplicate ladders and they have dropped, the tray rests on them; and when another tray follows, the same operation takes place, and the first tray ascends to another set of stops, its previous position being taken by the second tray, and so the process goes on until the evaporator is full. The orchard comprises 130 acres of apples, 24 of apricots, and 23 of currants. After lunch had been partaken of, Yalumba wine-cellars were inspected. Currant-drying was in full swing, and much interest was manifested in a power-currant-cleaner erected by Mr. S. O. Smith. In this machine the currants are raised by a canvas elevator and carried on to a double-wire sieve, conical in shape, the outer sieve being stationary and the inner revolving. The currants pass between the two sieves, the stalks and rubbish are removed, and the currants are then carried by another elevator to bins. The packing-house of Mr. G. F. Nepean-Smith was next inspected. Here an apple-grader, which will effectively grade 400 to 500 cases per day, was seen in operation. The shed of the recently formed Growers' Packing Union was also visited, as were other places of interest. In the evening the Angaston Branch entertained the visitors at a dinner and social evening. A hearty vote of thanks was accorded to the Angaston Branch, and it was generally agreed that gatherings of this description were very instructive, and tended to promote a good feeling between the Branches.

Balaklava, February 20.

(Average annual rainfall, 15¼ inches.)

Present—Messrs. Neville (chair), Anderson, Baker, Wurful, Roediger, Spillane, Thomas, and Uppill (Hon. Sec.) and one visitor.

Marketing Wheat.—The present system of marketing wheat was generally approved of. Several members had shipped wheat direct to the English market at a loss of over 1d. per bushel on what they could have obtained locally. Mr. Wurful favoured the storing of wheat at railway stations and sidings or in private sheds, in preference to storing with merchants or in the farmers' barns. With the wheat on the spot a higher price could be commanded.

Gawler River, March 5.

(Average annual rainfall, 18 inches.)

Present—Messrs. Spencer (chair), J. and B. Hillier, Richter, Roediger, Dunn, Bray, and Winckel (Hon. Sec.) and one visitor.

Best Wheat in the District.—Mr. Roediger gave an address on this subject. He considered after ten years' trial, King's Early to be the best. The frost does not appear to affect it like other wheats. About 1¼ bushels should be sown to the acre at about the end of May. If sown much before this it is inclined to go down. In addition to being a good yielder, this variety, when cut for hay, was among the best feeds for stock. Mr. Roediger placed other wheats in the following order of merit:—Leak's, Yandilla King, and Federation; for hay he preferred Baroota Wonder. Marshall's No. 3 had not yielded well with him, although tried for 5 years. The speaker considered the present-day necessity for sowing more thickly than in years past to have been brought about by the harvesting machinery, which in his opinion destroyed a large quantity of the germ in the reaping. Strong pickling also destroyed the germ. The best proportion was ¼ lb. of bluestone to a 4-bushel bag. It always paid to sow pure seed well graded. Barley when once in the wheat was difficult to get out, and great care should be taken to thoroughly clean out the seed-drill after sowing, as otherwise mixed seed would be the result. A good discussion followed, in which members generally agreed with the views expressed.

Stockport, February 8.

(Average annual rainfall, 16 inches.)

Present—Messrs. Megaw (chair), Stribling, Whitelaw, Perry, F. and J. Watts, Woodhead, Branson, Rodgers, Mitchell, Pycroft, Howard, and Murray (Hon. Sec.) and one visitor.

Irrigation.—Some discussion on this subject took place. Mr. Megaw asked how many cows an acre of irrigated lucerne would keep from the beginning of December to end of March. Mr. Whitelaw said this depended upon the amount of water applied and the growth of the crop. At Kilkenny he had cut 11 tons off an acre and then six weeks later had cut another 6 tons. If liberally treated he believed they could cut 14 to 16 tons of green lucerne per acre during the summer in this district. [Can any readers give any details of the actual stock-carrying capacity of irrigated lucerne either grazed or cut and fed away from the field?—Ed.]

YORKE PENINSULA DISTRICT.

(TO BUTE.)

Arthurton, March 10.

(Average annual rainfall, 16 inches.)

Present—Messrs. Welsh (chair), Page, Bull, A. G. Lamshed, Rowe, Klein, and S. T. Lamshed (Acting Hon. Secretary).

Date of Congress.—Members favoured September Show week for Congress, commencing on Tuesday morning.

Marketing of Wheat and Selection of Seed.—Circular from Wheat Commission in reference to members of Branch giving evidence was discussed, but it was resolved that members of the Branch were not sufficiently interested in the work of the Commission to appoint delegates. Some discussion took place on selection and preparation of seed-wheat.

Bute, March 2.

(Average annual rainfall, 15 inches.)

Present — Messrs. A. Cousins (chair), Sharman, Commons, Hall, Buchanan, A. and H. Schroeter, Stevens, Axford, E. Cousins, M. McCormack, Barnes, Wauchope, Scholefield, Trengove, and L. McCormack (Hon. Sec.) and two visitors.

Congress.—Members favour holding Congress during March Show week.

Smut in Wheat.—Mr. Trengove showed a number of grains of wheat which were only partly smutted—that is, a portion of the grain was quite sound and a portion was destroyed by the fungus. Members wished to know if there was any explanation for this. [Professor McAlpine, of Melbourne, to whom the specimens were forwarded, gives the following explanation:—"In the partially bunted grain the fungus had evidently exhausted itself in producing its spores only on one side. The fact that the whole of the starch was not utilized in the formation of spores might be due to the slow growth of the fungus enabling the contents of the grain to harden, so that the fungus could not penetrate. In all these cases—whether smutted and sound heads are found on the same stool, or smutted and sound grains in the same ear, or even where the grains are only partially smutted—the explanation is the same, *i.e.*, that by some accident of growth the fungus did not undergo its full development, and was unable to reach all parts of the plant as it generally does."—Ed.] Mr. Commons thought the injury was due to frost and not smut, but Mr. Buchanan was quite satisfied, both from the taste and smell, that the partial injury to the grain was due to smut. Discussion also extended to flagsmut or blackrust, which Mr. A. Schroeter said had not been so prevalent since the practice of fallowing and using superphosphate had been generally adopted. Ploughing in the seed appeared to conduce to the development of this disease. He had noticed that oats were never affected by flagsmut (blackrust). Several members thought seed sown too deeply was likely to suffer from this disease, and advocated shallow seeding. Other members advised sowing 1½ in. to 2 in. deep.

Maitland, March 13.

(Average annual rainfall, 19½ inches.)

Present—Messrs. Tossell (chair), Hastings, Heilemann, Jarrett, Lamshed, Lutz, Opie, O'Grady, Smith, and Pitcher (Hon. Sec.).

Date of Congress.—Members favour September Show week for Congress, opening meeting to be on Monday evening.

The Storage and Disposal of Wheat.—Mr. O'Grady read a paper on this subject to the following effect. He thought the time was ripe for farmers to combine to store all the wheat they intended to hold for a time. He thought this could be done by erecting sheds at the different ports, placing them in charge of reliable men to receive and deliver wheat according to instructions. These men should be paid a decent wage, to be contributed by the farmers in proportion to the amount of wheat stored. He thought the farmers in this district had sufficient intelligence and business ability to carry out such a scheme successfully. He believed that if they united in this way they could secure 2d. to 3d. per bushel more than by the present system. In every market report they would notice how large parcels commanded more than what were termed "farmers' lots." While bran and pollard were 1d. to 2d. per bushel more at Port Adelaide than in the other States, yet the South Australian merchant paid less for the wheat. Our wheat was supposed to be of better quality, and from newspaper reports freights appeared to be no higher. Such being the case, why should wheat be lower in South Australia than in the eastern States? He thought they were pursuing a foolish policy in storing with the merchants, and strongly advocated combination to erect sheds and to keep the control of their produce in their own hands. The paper was well discussed, but the majority of members were opposed to Mr. O'Grady's suggestion.

Pine Forest, March 2.

(Average annual rainfall, 13 inches.)

Present — Messrs. Johns (chair), Edwards, Bayne, Nelson, Hewett, Adams, and Barr (Hon. Sec.).

Date of Congress.—Members were in favour of holding Annual Congress during September Show week, the opening meeting to be held on Monday evening.

Loss of Lambing Ewes.—Mr. Edwards referred to the serious losses and trouble caused during the past year by foulness in the lambing ewes. He had gone carefully into the question of means of prevention, and had decided to have the whole of his flock breeched about the end of March. This he had contracted to have done at 7s. 6d. per 100, and if it was successful it would be money well spent.

Pickling Oats.—In reply to enquiry, Messrs. Hewitt and Adams thought it would be safer to pickle oats to prevent smut, although they did not usually pickle clean seed. [Unless the seed is pickled there is always considerable risk of loss, though many farmers do not pickle unless the seed is smutty. —Ed.]

The Wheatsack.—Mr. Bayne objected to the present-sized sack being retained; it should be a 200-lb. sack, as decided by the Commonwealth authorities. He thought it would be better to make the bag wider instead of longer.

WESTERN DISTRICT.

Butler, March 8.

(Average annual rainfall, 13 inches.)

Present—Messrs. Trenberth (chair), Jericho, Young, Parker, Morgan, Barr, Butler, and Phillis (Acting Hon. Sec.) and two visitors.

Veterinary-surgeon.—The Koppio Branch wrote asking if the Branch would unite in a scheme to guarantee a certain income to induce a competent veterinary-surgeon to establish himself in the district. It was decided to inform the Koppio Branch that members were of opinion that the district was large enough for a veterinary to work up a good practice without any guarantee.

Water Conservation.—Mr. Barr read a short paper on this subject. In this district he considered underground tanks better than dams for storm-water for house and stock purposes. If an underground tank cannot be constructed owing to lack of time or other reason, the next best is a tank made of pieces of thin sheet-steel which are bolted together to form a circle, the bottom being concreted. An underground tank to hold 20,000 gallons can be constructed in this district for about £25. A good dam of water is a valuable adjunct to any farm. Members agreed with Mr. Barr.

Cummins, March 6.

Present—Messrs. Cooper (chair), Brown, Nosworthy, Gordon, Durdin, Roe, Potter, Hamilton, and Siviour (Hon. Sec.).

Preparation of Land for Sowing.—Mr. Potter read a paper on this subject. The plough was undoubtedly the best implement to use; it was destructive to shoots, and led to a good crop. The soil in this district should be ploughed only deeply enough to turn the furrow. Providing that no rain fell to batten down the land the plough—without further working—would leave a sufficiently good seed-bed. Fallowing was very necessary in that district, and should be adopted extensively as early as possible, so that when seeding-time arrived a large area could be sown at the right time and under the best conditions. The depth advocated for fallowing was 3 in. in new ground, and not less than 4 in. in old. After fallowing, the land should be harrowed, choosing if posible a time when it was damp. This would settle it and conserve moisture, leaving it in good condition for further working. Further working, however, was hardly necessary in a new district where land is free from weeds, and running the cultivator just in front of the drill answered very well, pulling off shoots and leaving a good seed-bed. A stump-jump cultivator was better for this purpose than a disc. Green land should be ploughed from 2 to 3 in. deep; then the harrow should run over it in front of the drill. This method made a good seedbed, levelling and filling holes; it left the land soft, and the seed was easily covered. Members generally agreed with the paper, though some of them preferred to work the fallow more during the spring with a scarifier. One of the members contended that if they worked their land more the returns would be better. In many cases the land was just turned over with the plough and left until seeding, when it was worked ahead of the drill. The ground being full of roots, the more it was stirred the better.

Fowler Bay, March 13.

(Average annual rainfall, 10½ inches.)

Present — Messrs. Giles (chair), Riddle, Hardy, Stott, Winter, and Noake (Acting Hon. Sec.) and two visitors.

Date of Congress.—Members were all in favour of commencing on Monday in September Show week.

Most Suitable Wheat for District.—Discussion on this subject took place, in which the virtues of Comeback, Steinwedel, Federation, Yandilla King, and Rattling Jack were set forth. Of these, members were of opinion that Rattling Jack was the most suitable for the district, as it did not go down or shake out, and it yielded fairly well.

Weevil.—Members asked whether weevil coming from damp or mouldy wheat would be liable to damage dry wheat in stacks or sheds.

Koppio, March [illegible].

(Average annual rainfall, 17 inches.)

Present—Messrs. F. Richardson (chair), G. B. and M. Gardiner, G. and M. Howard, Thompson, Newell, R. Richardson (Hon. Sec.) and two visitors.

Date of Congress.—Members favoured September Show week for Congress, commencing on Monday evening.

Lameness in Sheep.—A member reported lameness amongst his sheep which he could not account for.

Winter and Summer Fodder Crops.—Mr. M. Gardiner read a paper on this subject, which he said was one of great importance to farmers in that district, where the feed was slow growing in the winter. Rape, sown in a fairly worked seedbed, when the ground was quite dry, was recommended as a good winter feed. About 7 ℔. of seed to the acre with 40 ℔. of superphosphates should bring on a good crop. This should be sown on more than one plot, so that when one had been eaten down another would be ready to carry the stock. If a pound of white mustard is sown in the rape, it will grow quickly and be eaten by the stock before the rape is quite enough grown to be of much use. A plot grown in this way, if not too heavily stocked, will last green up to shearing-time. For summer fodder, thousand-headed kale was recommended. The ground should be well manured some time before sowing, and must be kept well worked right up to seeding-time. Seed should be put in, about the end of July, two or three in each place, in rows 3 feet apart each way. It may be necessary to thin out and transplant when they come up. In this way an acre of land should yield 4,840 plants, which should yield 35 tons of green fodder during the five summer months. It is a good feed for all stock. Pigs in a stye do well on it with some slops occasionally thrown in. Horses during harvest are benefited by it, as it keeps the bowels open. When cows are fed on kale there is no fear of "dry bible," while it increases the milk supply considerably. The paper was discussed, members agreeing that rape and kale were excellent crops to grow. One member thought it would be better to sow less seed and use more manure. [For economy in sowing kale a good plan is to mix about 1 ℔. of seed in 1 cwt. bonedust, and sow with the drill, blocking two out of three of the apertures. Hand-seeding is slow and expensive.—Ed.]

Miltalie, March 6.

PRESENT—Messrs. Atkinson (chair), Jacobs, W. G. and E. P. Smith, Story, Searle, and Hier (Hon. Sec.) and five visitors.

BUREAU WORK AND UNION.—Mr. E. P. Smith read the following paper:—"Other trades have their unions; why, then, should not farmers be better organized? At present they stand alone, and consequently as a body they cannot exert the necessary influence on public opinion. Union is power, and the common interest of the farmer demands union. I would like to see the Agricultural Bureau such a force and power in the land that would combat the disadvantages and injustice which prevail to-day. To effect this the Branches must be made popular and the meetings interesting and instructive. Their object should be to encourage the interest of farming in the various forms of the Bureau and to spread useful knowledge among the producers; in short, the Agricultural Bureau should be a mutual-improvement society. It should be the means of furnishing to the young generation of farmers an education to fit them for their work, and be the voice to the country on all questions touching the well-being of the producer. There are to-day a lot of Bureau Branches which hold very few meetings during the year, and, further, the attendance at the meetings is small. To look at reports of many Bureau meetings there seems to be a lack of real interest, a want of go, and an absence of responsibility, which must cause sure death to some of the Branches. Analyze the list of members, and they can be placed as follows:—First, the working member, who attends regularly and does his best to make the meetings interesting; second, the shy member, who has an enormous amount of information stored away, but is too shy to pass any of it out; and, third, we have the indifferent and lazy member, who fails to take interest in the meetings. To make the latter a success and to maintain interest requires united as well as individual effort. Every member should be like the wheels in a clock. You know what would happen if one of them were to stop; the same must happen to our Bureau meetings. It is not an easy matter for a few, month after month, to fill up the programme, and it is not fair; all should help and all can help. There are some who think that it is beyond them to give a paper, but meet them in the field, and you will find that they have a store of useful information. There are members amongst us who have had years of experience of farming, and whose experience is worth relating, but they are shy. Then we have men brimming over with ideas of how things ought to be done—well, let those men bring forward those ideas. It is desirable that they be made known and their practicability discussed. Then, again, we have the handy man on the farm, who has a knack of making contrivances that save time, labour, and expense; let him bring those to our meetings—in fact, anything and everything that will make the meeting interesting and instructive. Let every member bring anything that may have attracted his attention during the month, such as plants, grubs, weeds, or labour-saving contrivances, etc., which could be tabled and make the meeting more interesting. Also bring along any visitors who may be interested, and perhaps become members. Every member should have an experimental plot at his home or on his farm. We want railways running through our land, and we can get them only by proving the country to be worth it. To do this we must work as a union; we can thereby farm to advantage, and have wheat-crops where now stands scrub only breeding vermin. At present the vermin has got possession of more than half of the district of Franklin Harbour. It is hard to understand why the Government is paying large sums for land already in use, while there is such a lot of it on this peninsula which will produce just as much wheat per acre, but which is lying dormant and infesting with vermin the farmers who are already here. Why not expend that money here on new lands and make it pay a revenue by railways and water-supplies? There is no doubt whatever of the capabilities of this country, given proper facilities. There are farmers who have to cart their wheat a distance of twenty-five miles to the seaport. It is quite evident that if we want railways we must combine and work our land to the best advantage. To do this we must experiment and extract practical agricultural science from whatever source we can, the best way being by making our Bureau a success, which cannot be done without we all pull together. The prize is worth working for. Just imagine all our back country, which is now lying dormant, covered with wheat, valuable stock, houses, and gardens, and vermin a thing of the past. The loss due to vermin in this district exceeds thousands of pounds per annum. There is certainly a Rabbit Act, but what is the use of an Act if it is not enforced? If all of us were to pull together in dealing with the rabbits, winter and summer, using the best methods available, we should be able to get the better of such a weak creature as the bunny. It appears that in all things where union is required there are odd ones who will not pull with the others; this is one reason why we cannot get rid of our rabbits, and the worst offender is the Government on unoccupied Crown lands. It is impossible for farmers to go to the back country and grow wheat before there is a railway. Put down the railway and the farmers will soon clear the land and put it to good use. Once this peninsula has a railway and is settled with farmers, it will be one of the main producing parts of South Australia. We can grow wheat, fruit, and vegetables, and produce meat and export lambs to equal any district in the State, and there are also a lot of copper-shows worth testing." The paper was well discussed and generally approved of. Mr. Smith tabled a sample of wool grown locally, and which realized 8¾d. per ℔. at last season's sales.

Shannon, March 6.

Present—Messrs. Neate (chair), Cronin, Habner, W. and H. Glover, Carey, Kain, and Cronin (Hon. Sec.).

Annual Congress.—This Branch was in favour of opening meeting on Monday evening of September Show week.

Best Wheats and Grading Seed.—The Hon. Secretary read a paper on these subjects. Experiments during the past year or two showed Federation to be best suited to the district. Returns for the State showed it to have yielded better in mallee districts than elsewhere. He thought this was because Federation stooled more regularly than other varieties, as the wheat that stooled best would come out on top. Compared with other wheats grown alongside, Federation had produced plants which were more regular and which all grew to about the same height. Other varieties suitable to the district—as Yandilla King, Walker's and Marshall's No. 3, Carmichael's Eclipse, Comeback, and Gluyas—were also reliable wheats. Members should sow several varieties, and so find out which best suited their land. For hay, the writer considered Marshall's No. 3 and Dart's Imperial as good as any. Grading wheat for seed purposes paid handsomely. Small grains produced small plants; this might be readily seen in any crop for which seed had not been graded. Small plants very much reduced the yield otherwise obtainable. A grader was not very expensive, the time taken to run through a few bags was inconsiderable, and the necessity for putting the wheat through the winnower twice was avoided. Further benefits derived were removal of drake or mustard, and of any small seeds of weeds which keep increasing year after year. Experiments had proved that graded wheats gave the highest yield. The paper was well discussed, the majority of members favouring Federation and Yandilla King. All considered that seed-wheat should be graded whenever possible.

Utera Plains, February 27.

(Average annual rainfall, 14 inches.)

Present—Messrs. Venning (chair), R. and T. Hornhardt, Guider, Barber, Chase, Stephens, Holmes, and Ramsay (Hon. Sec.) and five visitors.

Harvester *v.* Stripper.—The Chairman read a short paper on this subject. He had had no experience with the harvester and could not therefore speak from personal experience. By contract prices, however, it was cheaper to reap with stripper and motor-power winnower. To strip 500 acres at 3s. would cost £75, cleaning with motor-power winnower (five men and petrol). £7 15s.; total, £82 15s. To strip, clean, and bag with the harvester would cost 3s. 6d. per acre, equal to £87 10s. on 500 acres. He thought that the motor winnower could be improved in several ways. The whiteheads should be run off instead of going through with the wheat. If there are any small stones or sticks, unless they are removed by hand, they go round until broken up small enough to go down with the wheat. There is also no escape for the green grains; while the sieves are kept properly fed they go down the spout, but if lightly fed they pass into the wheat, mixing the sample. The motor was certainly a neat little engine, but to the inexperienced man motors might be a source of trouble. If anything goes wrong they were at times a puzzle to the owner, but as they got more numerous it would be possible for the man in trouble to watch his neighbour's motor at work and so find out what was wrong with his. The motor would work a No. 4 chaffcutter, and would, he thought, be available for other work of this nature. He had cleaned 270 bags of wheat while using one tin of benzine. Members were divided in their opinions as to the merits of the harvester as compared with the stripper and motor-power winnower.

Date of Congress.—Members favoured holding Congress during September Show week, commencing on the Monday evening.

EASTERN DISTRICT.

(EAST OF MOUNT LOFTY RANGES.)

Coonalpyn, February 23.

(Average annual rainfall, 17½ inches.)

Present—Messrs. Fidge (chair), Allengame, Venning, Hill, and Cavagh (Hon. Sec.).

Johnson Grass.—Mr. Hender tabled a splendid sample of Johnson grass. Members thought this would prove a useful fodder for stock.

Manuring Wheat-crops.—Mr. Hill reported on results of experiments carried out last year for the Agricultural Department. The land was fallowed in August, 1907, harrowed twice, ploughed again in June, and harrowed twice before drilling and once afterwards. The results per acre were as follows:—1 cwt. mineral super yielded 19 bus. 4 lb., the addition of 5 cwt. lime per acre reduced the yield to 15 bus. 4 lb.; 1 cwt. mineral super, ½ cwt. sul. potash, 12 bus. 40 lb.; ½ cwt. sul. potash and ½ cwt. nitrate of soda, 15 bus. 52 lb.; no-manure plot, 6 bus. 30 lb.; 1 cwt. mineral super and 56 lb. sul potash, 12 bus. 40 lb.; ½ cwt. sul. potash and ½ cwt. nitrate of soda, 6 bus. 14 lb.; 1 cwt. mineral super and ½ cwt. nitrate of soda, 14 bus. 20 lb. The application of nitrate of soda and sulphate of ammonia did not appear to do any good at all, the best returns being obtained from mineral super.

Mannum, February 27.

(Average annual rainfall, 11½ inches.)

Present—Messrs. Walker (chair), Faehrmann, Preiss, Schulze, Heidrich, Haby, Wilhelm, and Scheutze (Hon. Sec.) and one visitor.

Insect Pests.—Mr. J. G. Preiss reported that the black scale on his citrus trees referred to at a previous meeting had practically disappeared. [Was any reason given or any statement made as to treatment of trees?—Ed.] The Hon. Secretary stated that he had seen myriads of small red-and-greyish-winged insects on one of the river-flats. They were very destructive to vegetation. Starlings were reported to be increasing rapidly in the district, and one member wished to know how to get rid of them.

Smut in Sorghum.—Mr. Heidrich stated that the heads of sorghum were smutty. He wished to know what caused this, and whether any injury would result from feeding the plant to cattle. [This trouble is caused by a fungus. It is considered unwise to feed "smutty heads" of sorghum to stock.—Ed.]

Sherlock, March 6.

(Average annual rainfall, 15 inches.)

Present—Messrs. Wood (chair), Arbon, Whyatt, Henzel, and Coombe (Hon. Sec.) and four visitors.

Manures Suitable for District.—Discussion took place on this subject, during which various opinions were expressed. Mr. Wood had used S.A. super and mineral super, and no difference was noticeable in the results. Bonedust was not favoured by itself, but was considered to be good when mixed with superphosphates. Mineral super was considered most suitable for the district, put on at the rate of 60 lb. to the acre.

Best Methods of Cultivation.—The general opinion was that the land should be ploughed wet and harrowed as often as possible with a view to firming the seedbed. One member thought that if the land was simply drilled and harrowed the results would be just as satisfactory on new land that had been ploughed once. Plenty of harrowing was advocated, but the land should not be ploughed often, as the subsoil was poor and loose.

Rainfall.—Mr. Wood reported rainfall from March 1 to December 31, 1908, to have been 15·95 inches.

Sutherlands, March 3.

(Average annual rainfall, 9 inches.)

Present—Messrs. Heinrich (chair), Johnson, Byrne, Thiele, Milde, Noack, and Dart (Hon. Sec.) and two visitors.

Date of Congress.—Members favoured meetings being held both in September and March Show weeks.

Horse-breeding.—Mr. B. Noack read a short paper on this subject. The aim of every breeder should be to improve the type of horses, and he strongly condemned indiscriminate crossing or the breeding of mongrels. The only way to improve their horse-stock was to breed only from pure-bred stallions. If they had a fairly good type of mare to start with they would in time greatly improve the strain by mating with good stallions. This applied to all classes of horses. A well-bred horse of any class will always command a good price in the sale-ring, whereas it is only a chance whether a mongrel will fetch enough to pay for its keep.

Water Conservation.—The Hon. Secretary read a paper on this subject to the following effect:—"If there is one thing more than any other that will help the prosperity of this State and bring population to our shores it is water conservation. Considering the population of the State—which is only 400,000 all told—we must admit that a good deal has been done in this direction; but there is a great deal more to do. The Government in many places has gone to great expense to make wells, or put down bores, near travelling stock-roads. Many large reservoirs have been constructed to supply populated centres; Adelaide can boast of one of the best water-supplies in the Commonwealth, while outside the metropolitan area much money has been well spent in providing water for stock and for purposes of irrigation. So far no scheme of any size has been attempted on our main waterway beyond the one at Renmark done by private enterprise. Dealing with water conservation from a local point of view, most of the rainwater—when heavy rains fall—is allowed to run to waste instead of its being conserved. It often happens that a farmer will see in one heavy rain more water pass before his eyes and going to waste than would be required to keep his stock for a whole year. When dry areas are opened up, the Government ought to see to the water supply. In many cases the farmers could do more than they do. In a dry district, where water is often scarce, it would be well for the residents to form themselves into a committee and ask help from the Government in securing a water supply. The expenditure and interest would be insignificant compared with the great benefits derived from it. The residents would be relieved of the bother of water-carting. The cost of man and horse so utilized could be used to help pay for cost of construction. The land in South Australia is good, and in many instances only requires to be irrigated to make it productive. Many farmers would say: 'Let us have water! Construct waterworks!' But they object to the necessary tax. It is evident they will never be able to get something in this direction for nothing. There can be too much of a good thing: too much water can be used in irrigating; it requires careful experiment and careful noting of facts. Too much water will carry away from the soil a quantity of fertilizing matter. After the land has been irrigated for some time it does not require so much water, as the subsoil will always hold a deal of moisture. Much is left to be done in our Northern areas in the way of water conservation. When our population increases, land that is not worth much now will become valuable. A great deal can be done to help precipitation. Trees can be planted in considerable numbers where the land is bare. The green leaves absorb heatrays and give off moisture. Where there are many trees there is much moisture, as the trees give off moisture through the leaves. On account of the absorption of heatrays by the trees the clouds come lower down, and precipitation is caused by the forest-leaves. The fallen leaves on the surface beneath the trees absorb and retain the moisture from above and, as a surface mulch, prevents moisture from escaping below. The roots, too, retard the downward flow of water, and cause it to sink into the soil, so that streams become permanent instead of drying up immediately after rain. Large areas planted with trees must, therefore, load the air with moisture, and cool the air by contact with the cooled surface-leaves. The higher the temperature of the air, the more moisture it will contain. Air about 90 deg. will hold about six times as much moisture as air at 32 deg. Moisture-laden air passing through a forest will yield up some of its moisture."

SOUTH AND HILLS DISTRICT.

Cherry Gardens, March 2.

(Average annual rainfall, 33 inches.)

Present—Messrs. Wright (chair), Brumby, C. and J. Lewis, Jacobs, Brealey, Hicks, and Curnow (Hon. Sec.) and two visitors.

Date of Congress.—Members were in favour of commencing the meetings on the evening of Monday in September Show week.

Egg-preserving.—Mr. C. Lewis read a paper on this subject as follows: "Whatever process is adopted eggs, to be successfully preserved, must be freshly laid. A good method is to smear the eggs with gum arabic, and when dry cover them with powdered charcoal, bran, or sawdust. Another way is to place the eggs in a net and plunge them into boiling water, leaving them there for about twenty seconds, and then pack them in bran. For keeping eggs a long time, cover them with a solution of 3 lb. of lime, 1 oz. cream of tartar, and ½ lb. salt, to about five or six quarts of water, the solution to be made with boiling water, and when quite cold poured over the eggs, the vessel in which they are so preserved to be covered over with a thick covering. Salt is a good preservative used as follows:—Place a layer of salt on the bottom of a box or barrel, and then put on a layer of eggs, on their ends, without letting them touch each other. Then throw in salt until all the spaces have been filled up and the eggs are all covered, then another layer of eggs and salt, and so on alternately till they are all packed. The top layer of salt should be at least an inch deep, pressed down firmly, so that no air may get to the eggs. Cover with a cloth and tight-fitting lid and keep in a cool, dry place. Better than all these the writer likes Burford's egg-preserver, which can be had in 1-gallon tins, making 7 gallons of solution ready for use. The eggs gathered fresh can be placed in this day by day, and will keep for twelve months in a cool place." Mr. Curnow asked whether infertile eggs kept better than fertile ones. Mr. Lewis had had no experience in that matter, but never had any difficulty in keeping good fresh eggs. [It has been proved beyond doubt that infertile eggs will keep fresher and for longer periods than fertile.—Ed.] Mr. Hicks had always used lime and salt as mentioned by Mr. Lewis, and had never known a failure. Mr. Jacobs asked what were the functions of the lime in the mixture.

Bacon-curing.—The following paper was read by Mr. Lewis:—"For bacon I would kill the pig and let it hang for eight to twelve hours to cool. Then cut it down the back so as to make two equal sides. If the pig is a small one, say, up to 80 lb., salt it in the two pieces; if larger, cut off the hams, shoulder, and middle piece. Take the ribs out of the shoulder, as it is a hard piece to salt, the blade-bone, being flat, preventing the salt from getting well round it. The ribs taken from the shoulder can be used as fresh pork or salted. To cure, allow for every hundred pounds of meat 8 lb.

of salt and 2 oz. of saltpetre. Use a large trough or cement-tank, so that the meat can be laid flat with the skin side downwards. A little salt should be put under it, and about 6 lb. of the salt, previously mixed with the saltpetre, sprinkled evenly over it. After leaving this for seven days turn it over and put a little more salt over it, leaving it for a further seven days. Now turn it over once more and, having put the remainder of the salt on it, leave it for seven days more. It will then be ready to hang up to dry. The bacon should now be packed in bran in a dry, cool place." The paper was discussed, and members generally agreed that the treatment set forth was a good one. Mr. T. Jacobs gave his views on the subject. The Berkshire breed of pig he considered to be the most suitable for the district. His system of curing had stood thirty years' test, having been taught him by his father, an old Isle of Wight man, and by it a pig could be killed with impunity on any day of the year, no matter how hot or sultry the weather. In sticking the pig, slightly raise its head, and with a keen blade make a plunge from the centre of the throat in a direct line towards the stump end of the tail. The pig is immediately dead. It is at once scraped, its head cut off, and it is disembowelled. Next take out chine, remove ribs, remove hams, cut away blade-bones, which are difficult to cure without a pump. Now cut chine into parts for salting, and remove the meat into the cellar or another cool place, and salt immediately, while the flesh is hot. In rubbing the salt in, rub until the flesh becomes quite moist. Next morning pack in pickle-tub, and sprinkle over a little more dry salt, after which little attention is needed. About four weeks after, take the meat out of the tub and put in calico bags, and hang in a room where there is a smoky chimney. He believed in maturing the hams, and would allow them to hang in a cool place for six months or a year. There was a little criticism.

Golden Grove, March 3.

Present—Messrs. Maxwell (chair), Maidment, Robertson, Tilley, and Harper (Hon. Sec.).

Ophthalmic Trouble among Sheep.—Attention was drawn to this complaint, chiefly among young ewes, some of which had become totally blind. One member in the past had experience of similar trouble, but thought it was confined to coastal districts. Burnt sugar rolled fine and blown into the eyes was recommended.

Destruction of Pests.—The Chairman read a paper on this subject to the following effect:—"Our profit consists as much in what we save as in what we make. If we allow our products or land to be destroyed by pests we are losing money. Probably our most destructive pest is the rabbit. Many thousands of pounds are lost annually in South Australia through the depradations of this enemy of the farmer. This loss could be greatly reduced by co-operation in the destruction of the pest. The best means, proved locally, of destroying the rabbit is to poison in the autumn when the feed is dry, and keep the burrows and nests dug out (or filled in where impossible to dig out) in the breeding-season. Vernox has been found to be the most effective poison; it is sold by Elder, Smith, & Co., Ltd., at 1s. 6d. per 2-lb. tin. The writer usually mixes half a tin with twelve medium cups of water and pollard as directed on the tin for each paddock, and removes the sheep to another paddock for a couple of days. Strychnine on apples is very effective in orchards where the vermin eat the fruit. Some fallen fruit should be cut in halves, and a very small quantity of strychnine rubbed into each piece. This poisons all of the apple, and when nibbled by the rabbit will cause sudden death. Strychnine kills much more quickly than phosphorus, and great care must be exercised that no stock or poultry can get at the baits. If rabbit burrows cannot be dug out, tarred paper pressed into the holes is a most effective way of blocking them. An article in the January number of the *Journal* which deserves our special attention is that relative to the introduction of stoats and weasels into New Zealand for the extermination of the rabbit. If they are as deadly to the pest as is claimed (without themselves being a nuisance), if they could be imported and would thrive here, it would assuredly be a great boon to this State. Foxes are—and are likely to continue to be—the cause of great loss, unless they are checked. They are particularly destructive to poultry and lambs, and also cause considerable loss in currant crops. There are several ways of getting rid of them. Perhaps the most effective way is to lay poisoned baits. Foxes are particularly fond of parrots, but the baits should not be handled, as Reynard has a very keen sense of smell. He can be caught by good dogs, and also by traps—two foxes having been caught in rabbit-traps in this district within the last three weeks. Wild-dogs do a great deal of damage in parts of the State, but usually keep in the back country. Rats are a great annoyance when they take up their quarters at a homestead. There is hardly anything they cannot overcome, even to make their way through sound boards, and they are very objectionable in the haystack, barn, chaff-house, pantry, dairy, or cellar. When very numerous, a good way to kill them is to place a quantity of flour and pollard mixed with strychnine on a large plate in a place frequented by them. If only a few have to be dealt with, a piece of boiled meat with strychnine rubbed into it tied in a cloth will get rid of them. These baits, likewise, should not be touched with the hand. For mice cats, traps, and poisoned wheat prove most effective. To do away with sparrows a good plan is to feed them several times with good wheat, and when they are accustomed to it, give them a good dose of poisoned wheat. Lice and tick in cattle have been cured by kerosene and olive oil mixed together rubbed on affected parts. The same application should be effective in keeping the botfly from horses' jaws. Flyblown sheep can be cured by treating the parts with kerosene or bluestone-water the same strength as for wheat-pickling. While dealing with nuisances it may be well to mention a weed that is either a nuisance or perfectly harmless. I refer to stinkwort. Some farmers have to go to great trouble to get this weed under control. This trouble and loss can be avoided by allowing a fair stock of sheep to run over the fallow and grass-paddocks regularly.'' The paper was well discussed. Some members thought that, in view of the rabbit-destroying propensities of the fox, it could hardly be termed a pest in rabbit-infested districts, while a member who is outside the rabbit-zone said that a marketable animal like the rabbit should not be termed a pest, but should be trapped instead of poisoned. It was stated that this procedure would not be sufficient. Trappers stayed in a district only while rabbits were numerous, and then moved on to fresh places. Coaltar and caustic soda were mentioned as a good means of killing rats.

Gumeracha, March 8.

(Average annual rainfall, 33 inches.)

Present—Messrs. Randell (chair), Moore, Hanna, B. and A. E. Cornish, Porter, Stephens, Monfries, Kitto, Jamieson, and Lee (Hon. Sec.) and one visitor.

Congress.—Members approved of suggestion to start Congress meetings on the Monday evening of September Show week.

Combination of Producers.—Mr. A. Moore read a paper on this subject to the folowing effect:—''Combination among producers is no new idea. It has been practised on a limited scale for many years with benefit to those interested, but, while the principle itself is undoubtedly good, the fact remains that among primary producers the development of the system has been so slow that it is reduced almost to vanishing point, and there is less of combined effort to-day than there was fifty years ago. During the earlier stages of the history of this State this form of co-operation was of frequent occurrence, the settlers finding it expedient to help each other with the work of the farm, both by means of labour and the use of teams and implements. As settlement advanced and the farmers became more independent and the labour supply more regular and reliable, the practice of combined effort at harvest or any other period of farmwork gradually became less until to-day we find the producers of this State the least united in their operations of any branch of the producing industries. We find each individual grower hoeing his row in his own way, and apparently not troubling about the question whether many farm-operations could not be performed more economically and expeditiously by combined effort. On the other hand, labour and many of the manufacturing phases of production have grasped the situation, and have reduced the principle of combination to a fine art. They have learnt the value of concerted action, and for mutual benefit and protection combine their forces until the farmer cannot transact any business—buy or sell—without coming into contact with one or another of these combinations. I have no quarrel with the principle of unionism or combination as practised by any section of the community, as long as it is adopted for the purpose of protection and mutual benefit. It sometimes happens, however, that these forces arrayed—shall I say?—against the grower are oppressive, and in self-defence I advocate sufficient cohesion in our own ranks to enable us to have a more definite voice in the general management of our important industry. More consideration should be given to combination in the three main departments of farm-life: buying, selling, and the cultivation of the farm. In buying, it is reasonable to assume that there is some advantage in dealing in large orders—for instance, an order for a hundred tons of manure can be given as easily as an order for a small quantity, and involves less time and labour on the part of both merchant and grower. On those lines it is possible to save something in the purchase of machinery. As a case in point, a few years ago some of our fruit-growers combined in the purchase of several spray-pumps, with the result that a financial concession was made by the manufacturers for selling a number of machines in one line. In selling, the need of combination is more evident. Large parcels all the world over command more attention than small ones. Again we must emphasize the fact that a merchant can buy a hundred tons of produce as easily as one, and has the advantage of having something to show for the expenditure of business-time and labour. In our particular district where many different varieties of products are raised, and no very large individual quantity of either, the question of bulking some of these lots and selling in one line may reasonably receive some consideration. It would possibly be of mutual advantage to merchant and grower if much of our locally-grown hay was sold in this manner. What an amount of misdirected energy is spent by a merchant going from farm to farm to purchase, say, a couple of hundred tons of hay in lots of 5, 10, or 20 tons when under a system of combination the sale could be effected through the recognized head of the union. In other products, especially wattlebark, the same procedure could be adopted. Buyers would then have the undoubted advantage of having some recognized centre where they could apply for supplies. To show that some of us have the courage of our convictions on this question it is only necessary to say that we are now handling the apple-export trade on those lines. Perhaps, after all, in the light of recent events, the third department—that of combination in working the farm—is of the greatest importance. So far, the farmer has not been very much inconvenienced by labour troubles. The strikes which have paralysed the interests of wool, mining, and manufacturing industries fortunately have not yet affected the rural producer to any extent. In spite of the chronic unemployed difficulty there have been times certainly when labour has been scarce and some difficulty has been experienced by the farmer in getting his work done, but still, thanks to improved machinery, we have managed to rub along. It is wise, however, to prepare for contingencies, as the time may come when strikes will be as common on the farm as they are now in the mine and manufactory. It has been said "that to have peace we must be prepared for war." Such being the case it would be wisdom on our part to evolve some plan whereby we can help each other in times of emergency. I would suggest that a definite system of combination be called into operation in cases of the emergencies referred to. A scale of rates might be drawn up so that there should be no misunderstanding as to the value of the work done for each other. The regulations should be based on sound business principles, the value of the various kinds of work definitely stated—so much a day for a man's work according to season—a price put on ploughing, drilling, binding, carting, wattle-stripping, and so on; in fact, a full list of the various phases of farm work and the value thereof. When the emergency arose it would surely be advantageous to combine and help each other until the difficulty was over, instead of working single-handed, or at least shorthanded. I would go even further, so that while advocating loyalty to our brother-producers in times of labour difficulties, we should not forget that we have various manufactories operating in our district to our benefit, treating the raw material raised by us. In case of trouble, the stability of these factories being menaced, we would be well within our rights in doing all we could to keep them going by supplying the requisite labour from our farms and families. Perhaps the members of this Branch will say that the foregoing suggestions are farfetched—that no danger of the kind threatens; but two events of recent history in this State bear on the subject. During last hay-harvest (as reported by the Press) a farmer arranged with a neighbour to help with his team to cart his hay. This was an ordinary case of helping a neighbour, possibly with a view of getting help in return. On his arrival at the hayfield the men working there declared that unless he left the field they would knock off. The employer, fearing to lose his men, gave in and sent his neighbour home again. In this case the labour combination was too strong for the individual farmer, whereas a combination with his neighbours would have rendered him independent and assured his position. At the Renmark Fruit Colony the men demanded higher wages and shorter hours, but the fruit-growers, thinking the demand excessive, agreed to combine for mutual protection, and with what labour they could command banded themselves together to assist each other, and thus successfully solved what might have proved a very serious difficulty, happening as it did in the middle of the harvest of perishable fruit. These two cases are sufficient to show what may be expected perhaps in the near future, but if we are prepared to show the loyalty to each other which is so conspicuous in other organizations, we have nothing to fear." The paper was well discussed. Mr. Cornish thought that while farmers appeared to be naturally dependent upon their own exertions the time was not far distant when through force of circumstances they would be compelled to combine to help each other. Mr. Randell agreed. Combination amongst farmers in the manner indicated was necessary. Mr. Jamieson said he had worked successfully with his neighbours in the use of certain farm implements.

Hartley, March 13.

(Average annual rainfall, 16 inches.)

Present — Messrs. Tydeman (chair), Brook, Paech, Stanton, Phillips, Wundersitz, and Bermingham (Hon. Sec.).

Date of Congress.—Members were in favour of opening meeting being on Tuesday morning in September Show week.

Mangold and Maize.—The Chairman tabled some fine specimens of long red mangold and some of maize, which had been grown on his property, irrigated by water lifted by means of an oil-engine. Members much admired the mangolds, and considered they should be more extensively grown, as they are such excellent feed for dairy cows.

Early Greenfeed.—Members considered the ground should be fallowed for greenfeed, and should be put in about the first week in April, unless a good rain came a week or two earlier. Cape barley and Cape oats were considered the best to grow, as they are fairly quick growers.

Kanmantoo, February 5.

(Average annual rainfall, 17 inches.)

Present—Messrs. Downing (chair), Mills, Hair, Thiele, and Lehmann (Hon. Sec.).

Nitrogen and Peas.—Members wished to know whether growing a crop of peas added to the nitrogen in the soil. [Yes.—Ed.]

Dodder on Lucerne.—The Chairman tabled sample of lucerne attacked by dodder. This was obtained from Murray swamp-lands. Members wished to know remedy. [Cut the lucerne on the affected patches before the dodder is in flower, cover with straw, and set fire to it. To make sure of destroying all the dodder, burn for about 2 ft. beyond where it shows. Sprinkling the patches with a solution of sulphate of iron—after the lucerne is cut—is also recommended, but burning gives the best results.—Ed.]

Curculio Beetles.—The Chairman tabled samples of curculio beetles which were doing considerable injury to his fruit-trees. He wished to know if there was any way he could treat the soil to destroy them without injuring the trees. [We know of no treatment of this nature that is practicable. The best remedy is to spray the trees with arsenate of lead or arsenate of soda and lime. Keeping poultry in the orchard is a good plan, as the birds will destroy large numbers of these beetles.—Ed.]

Longwood, February 27.

(Average annual rainfall, 37 inches.)

Present—Messrs. Oinn (chair), Glyde, Furniss, Coles, Roebuck, Pritchard, Vogel, and Hughes (Hon. Sec.) and two visitors.

Fodder-plants.—This meeting was held at Mr. E. J. Oinn's, the greatest interest being taken by the members in his experimental plots of fodder-plants. These are grown on good gully land which is irrigated, and comprise lucerne, "cow-grass," *Panicum crusgalli*, millets of different kinds, sorghum, Planter's Friend, Ninety-day maize, perennial rye-grass, prairie-grass, and *Phalaris commutata*. Mr. Oinn is carrying out experiments with hay made from these fodders. The vegetable garden was also inspected with interest. About twenty varieties of apples and pears, many of splendid quality, were tabled.

Lyndoch, March 4.

(Average annual rainfall, 23 inches.)

Present—Messrs. Warren (chair), J. and W. G. Mitchell, A. Springbett, Burge, Kennedy, Lawes, and E. Springbett (Hon. Sec.).

Wheat Prizes.—A good deal of discussion took place in reference to conditions under which the Government is offering prizes for new or improved wheats. Members were of opinion that the competition should have been held back for at least three years to give farmers an opportunity of competing.

The Foal.—Mr. F. K. Warren read a paper on this subject. Probably no animal of real use to man had received worse treatment in the past than the horse, but he was glad to notice that of late there had been a decided change for the better. Dealing with the rearing of the foal, he believed in working the mare to within a few days of foaling, as then she kept in better health than if idle. A fat mare's foal is likely to be a poor one, while the milk from a poor, thin mare will probably be lacking in vitality. See that the mare and foal are all right after foaling; if there is anything wrong with the foal, the mare is probably the cause. Derangement of the bowels is the most frequent trouble, and for this he found a little raw linseed or castor oil to be of use. When the foal is a few days old, catch the mare and foal, and handle the latter gently, rubbing him all over with the hands. He will soon appreciate this, and if it is repeated daily for three or four days he gets used to being handled. Afterwards see that the mare and foal are both well fed, but do not handle them again until it is time to wean. No hard-and-fast rule can be laid down as to time to wean, but it is a mistake to leave the foal too long with the mare, as the latter will fall off in condition. The first year is the most important in the life of the horse; consequently the foal must be fed well. A bran mash with a little linseed oil or boiled linseed is good for breakfast for the foal; chaff, crushed peas, barley, and oats for dinner; and good, sound hay at night. Give him as much as he will clean up. After the foal has settled down, it should be handled and accustomed to a halter being put on and to being tied up. Care must be taken that he does not hurt himself. He preferred to leave the halter on during weaning, as it saved time, and after the foal is fairly quiet it can be taken off and put on, until he is used to the operation. Teaching the foal to lead is the next task, and this also requires care. Do not hit or flurry the foal, as he does not know what you want him to do, and so patience must be exercised until he understands you. Sometimes they had an old horse led in front of the foal, and this was a good plan. In leading, they should have an object in view; on his farm there was a distance of about 200 yards between the stable and the water, and he found that it was time well spent to lead them to drink. Three trips a day for a few days meant a little trouble, but soon they could lead the foal simply with an arm round the neck. At this stage pick up their feet occasionally and handle them in different ways, to accustom them to any handling that may be given later. If this is done carefully at this stage they will not forget it if turned out for twelve months, and there will be little or no trouble in breaking them in.

Dried Fruits.—Mr. A. Springbett tabled good samples of dried apples plums, and prunes. Mr. Kennedy tabled splendid sample of Evandale dried apples.

Port Elliot, February 20.

(Average annual rainfall, 20½ inches.)

Present—Messrs. Welch (chair), Green, Pannel, Gosden, Brown, Vince, and W. E. Hargreaves (Acting Hon. Sec.).

Potato-growing.—Mr. W. E. Hargreaves read a short paper on potato experiments. He had come to the conclusion that the potato-grower as a rule did not treat the tuber fairly. If fruit-growers gave their fruit similar treatment they would expect it to be a bruised mass of pulp. Potatoes when dug are thrown into a bucket, then emptied into bags, and when bagged they are thrown into a dray or waggon and often walked upon by the men. Then they are tipped out of the dray, stacked in heaps, and receive very much the same treatment when handled again for sale. Was it any wonder so many failed to keep? He had been trying a few little experiments in regard to potatoes. He had tried side by side six potatoes about the size of small hens' eggs; six sets from the crown-end of the potato, six sets from the large end, also six sprouts about 2 in. long taken off a large potato. The small, round seed produced most tubers, but not so much in weight as the cut sets; there was little difference in returns from the cut sets, but those from the large end were on the whole the better; the shoots produced only a few very small tubers. He strongly favoured using large potatoes for seed, and thought much of the deterioration in potatoes due to the use of small round seed. He also preferred seed dug from the ground before it is quite ripe and allowed to lie exposed for a few weeks. To hurry them on for planting, cover with an old branbag and a few inches of fowl manure. The potato is like some apples: it is better for eating after being kept for a few months; some potatoes that are soapy when freshly dug will cook to a ball of flour after storing. He favoured planting about 4 in. deep in soil not too wet and cold. He did not believe in earthing up, as it let the sun in too much, and in his opinion was labour expended for nothing. If planted 4 in. deep in rows 27 in. apart and set 12 in. apart in the rows, they can be worked with the horse-hoe to keep the weeds down and the soil loose without much handwork. He believed in applying a dressing of manure to the land some while before planting. A little bonedust applied in the trench will materially increase the yield. He was satisfied it would pay them to give more care both to the selection of seed and to their treatment when digging.

Burning Scrub.—Members considered March early enough for scrub-burning in this district, and that the width of clearing should be at least a chain where the timber is of any size.

Uraidla and Summertown, March 13.

(Average annual rainfall, 42½ inches.)

Present—Messrs. P. Coddledick (chair), F. Cobbledick, Rome, Collins, Willsmore, Hart, Kessell, F. and J. Johnson, Day, Fisher, Dyer, Hoffmann, and Snell (Hon. Sec.) and three visitors.

Homestead Meeting.—Members first met at the homestead of Mr. Day, whose fine irrigation plant was inspected. By extensive drives on the higher slopes a plentiful supply of water is obtained with sufficient pressure to work sprinklers all over the garden without the expense of an engine. In the garden belonging to Messrs. Cobbledick Bros. water is pumped into a tank made of sheets of iron, and which has a capacity of 20,000 to 25,000 gallons. As this is high on the hill, a splendid pressure is obtained for the sprinklers. Having inspected Mr. Day's garden the members visited those belonging to Messrs. Richardson and Oliver, thence to Mr. J. Johnson's, where refreshments were enjoyed. The valuable bore which supplies water in this garden was then visited, and its advantages fully recognized. Variegated celery, grown as thickly as lettuces, was seen here, which has the immense advantage of bleaching without being banked up. The necessity for keeping seed free from inoculation when grown near other crops was demonstrated by a cabbage plot, in which the seed had been inoculated with pollen from kale. A hearty vote of thanks was accorded those whose gardens had been visited, and to Mr. and Mrs. Johnson for their hospitality.

Date of Congress.—Members were in favour of opening meeting being held on Tuesday morning in September Show week.

SOUTH-EAST DISTRICT.

Lucindale, February 20.

(Average annual rainfall, 22½ inches.)

PRESENT—Messrs. Rayson (chair), Tavender, Rivett, Natt, Langberg, Johnston, and Secker (Hon. Sec.).

ATTENTION TO HORSES' TEETH.—Members decided to co-operate to purchase necessary instruments for use in attending to horses' teeth.

FEDERATION WHEAT.—Mr. Rivett stated that he had one plant of Federation wheat with 103 stalks.

SHEEP FOR THE DISTRICT.—The Hon. Secretary read a short paper on this subject. As the conditions of each man's property may differ from his neighbour's, it is not possible to lay down any hard-and-fast rule as to what type of sheep will thrive best or give the most profitable return. He would, therefore, simply mention their own experience. The sheep they had been breeding with success was a type of Comeback—that is, from the Lincoln-Merino ewe mated to Merino ram. They had not confined their attention to any particular strain of Merino sheep, but had used good flock rams of several strains. By breeding in this way the mortality amongst the ewes at lambing-time was reduced to a minimum. The ewes are good mothers and plucky; he had seen one with lamb at foot defy and chase a dog out of the paddock, and he thought a fox would have a difficult task to get at her lamb. He thought that for their district August and September the best time for lambing. He had tried early lambs for two seasons, and although they got more wool from the lambs they did not seem to thrive like the late lambs, and the ewes carried a heavier fleece if lambed late. The wool from these Comeback sheep was soft and bright, the staple being 3½ in. to 4 in. long, while they cut a good fleece. In addition to being good wool-producers they made a good mutton sheep, and do well on both scrub and flat country, which is a great consideration in this district. He thought the Romney-Merino ewe would probably produce as good a lamb as the Lincoln-Merino, but he had no experience of them. The other mutton-breeds were not suitable, as the wool from the crossbreeds was very inferior. In this district wool was almost the main consideration. Mr. Tavender agreed with the paper, but said the difficulty in breeding Comebacks was in keeping them to type throughout the flock, the tendency being to throw back to one or other parent. Mr. Langberg said he preferred sheep black with grease, his experience being that he got a heavier fleece and a large cheque. The Hon. Secretary called attention to report in *Dalgety's Review* of woolscouring tests at Geelong, which showed that the sheep which cut the heaviest fleeces did not necessarily produce the most wool when scoured—and as the wool was bought on what it should produce when scoured a lighter fleece would bring more per lb. than one heavy in grease.

Millicent, February 16.

(Average annual rainfall, 28½ inches.)

PRESENT—Messrs. Stewart (chair), Harris, Magor, Bird, Mullins, Oberlander, Hart, Mutton, McRostie, and Thompson (Hon. Sec.).

DRAINING LAND.—Mr. H. A. Stewart read a paper on this subject to the following effect:—"Stagnant water renders a soil cold, sour, and unworkable. When land is well drained it becomes more open and porous, so that the rainfall, instead of collecting on the surface to act injuriously, and then return to the source whence in came, passes into and through the body of the soil, where, through the increased porosity produced by the operation of draining, a great part is conserved for the use of vegetation. Air follows the descending water, and by its action sweetens the soil. Another advantage is that the soil gets the benefit of the useful compounds brought down from the atmosphere in the rainwater—ammonia and nitric and carbonic acids. After drainage, the soil becomes in every way better suited to cultivation. It is much more easily worked by the plough, and gradually loses its tendency to form into clods and lumps, and its more open texture permits of the easy penetration of the roots of plants in search of food. The increased warmth produced very materially assists the germination of seed, and the development of vegetation in its earlier stages. When land is dry it is not subject to such great variations of temperature as when wet. The effect of extreme heat and cold is to increase the bulk of water to a considerable extent. The freezing of very wet lands heaves up the soil, and the plants with it: then when thawing, the evaporation of moisture causes the earth to fall back, and the roots of the plants are thus left standing alone at the mercy of the weather at a time when they are least able to withstand such exposure. The following is a simple and satisfactory experiment for the purpose of demonstrating the advantage of draining:—Take two flowerpots of the same size, plug the hole in the bottom of one and leave the other pot as it is; fill both with the same kind of soil, and sow the same kind of seed in each. The pot having the hole in the bottom will then represent a drained field, and the other pot an undrained field. Now, the pots can be treated just as the weather treats a field—much water can occasionally be given to represent heavy rains, and then, again, water can be withheld for a time to represent a drought. It will then be seen that the soil in the undrained pot will be sodden with water at one time and caked and dry at another, just like soil that overlies an impervious clay subsoil. The overplus of water escapes from the soil of the drained pot and leaves the soil free and moist, which moisture it retains longer than does the soil of the other pot. Experience and observation go to prove that no drain should be put in at a less depth than 3 ft. where this is at all practicable. In draining comparatively level land the give-and-take principle has often to be practised; while the average depth may be 3 ft., a sudden rise in the conformation of the land may necessitate a depth of 4 ft. or more for some distance, to get a proper fall and reach the natural outlet. Before commencing, it is wise to carefully survey the land with a spirit-level, and lay off the main drains on the lowest land, and with the best fall possible. The ordinary drains leading into these should be parallel to each other, but forming an acute angle with the main drains. It is now generally admitted that proper and efficient drainage produces a change equal to an improvement of climate—the manures act more quickly, and give a much better return. Experience has taught many farmers that the application of manure to wet land is a simple waste of money. Amongst the effects of draining are the following:—It removes the surplus water and prevents ponding in the soil. (It should be noted that if the drains are used they should be of sufficient size to remove the surplus water in twenty-four hours.) It prevents the accumulation of poisons in the soil, which results from stagnant water, either above or under the surface. The ammonia is carried down into the soil by the descending rain, stored for the plant-food, instead of stopping on the surface and passing off by evaporation, or being borne away with the surface waste. It deepens and enriches the soil by opening the ground, allowing the roots of the plants to go deeper into the earth; decaying after harvest, they form this subsoil into surface soil, providing more reliable resources for the plant, and making the same ground better for cultivation for a greater length of time, besides avoiding drought by enabling the plant to thrust its roots more deeply into the soil. The drainage increases the temperature of the soil. In some cases the average has been increased as much as 10 deg. By securing uniformity of condition for plant-growth it hastens the maturing of the crop from ten days to two weeks. It enables the farmer to work his land in wet or dry seasons, and ensures a return for the labour bestowed. With our land thoroughly drained we can carry on the operation of farming with as great success and as little effect from bad weather as any business which depends on such a variety of circumstances. We shall have substituted certainty for chance, as far as it is in our power to do so, and make farming an art rather than a venture. Some of the most successful experiments in swamp-draining have been carried out in the Tantanoola, Millicent, and Mount Muirhead districts, where thousands of acres of apparently useless land have been drained and cultivated, and sown down with grass. All this has been done by a system of open drains, which run for miles along the roadside, and are intersected by other drains, which not only drain the land—emptying themselves into the main drains—but also subdivide the property into conveniently sized enclosures. In any extensive drainage operation, the first step should be to have the property surveyed to find the best outfall. Some of these swamps occupy an area of between ten and twenty thousand acres. The drainage of Lake Frome in the near future will add some valuable land to the Mount Muirhead and Beachport districts." The paper was well discussed, and reference was made by Mr. Hart to the fact that the attempt to grow grasses on the low land prior to draining was a failure, but on the rises the grass did well. He advised care in planting trees that they did not sink; this could be done by making a trench about 2ft. wide, leaving a 3 ft. circle of earth in the centre; slope this down to form a cone, set the tree on this with roots well spread, and cover firmly with the surface soil. Mr. Magor said he had lost a number of trees through planting too deeply. With shallow planting the trees had done well and produced good crops.

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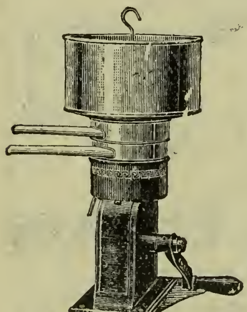

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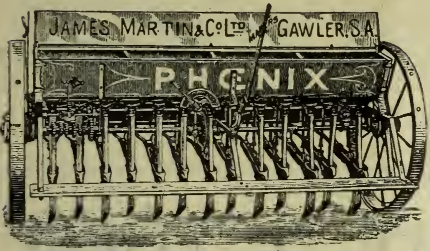
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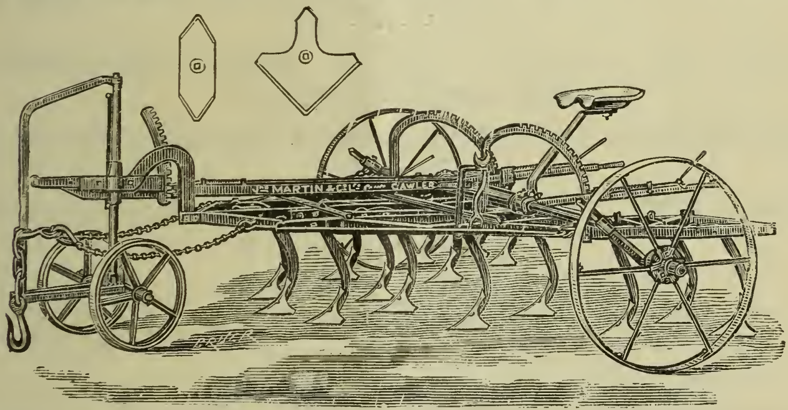
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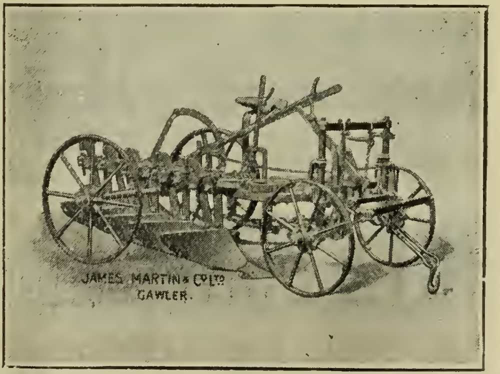

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Head Office—No. 18, King William Street, Adelaide.
Wool Stores—Port Adelaide.
Hide and Skin Stores—Gilbert Place, Adelaide.

Directors—E. H. Bakewell (Chairman) Herbert White Hughes.
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Managing Directors—G. W. Bagot. John Lewis.
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BRANCHES AND AGENCIES in all the Principal Towns in the State, and at Broken Hill, N.SW.

Pitt's Polvo Lime

An Efficient Fertilizer.

A.W.G.PITT

As used by the Department of Agriculture at the Parafield Experimental Station.

42, Light Square, Adelaide.

Do YOU grow WHEAT on the Peninsula ?

Then here is MONEY for you !

Chemical Analysis shows your SOILS to be deficient in POTASH,

and Practical Experiment has proved that it pays to use POTASH MANURE.

Here is a result from Eyre Peninsula, which speaks for itself.

Manure per Acre.	75 lb. Superphosphate.	75 lb. Superphosphate 30 lb. Sulp. of Potash
Yield per Acre.	18 Bushels.	24 Bushels.
Profit per Acre due to Potash.		18s. 3d.

Potash may also be lacking on any land long cultivated and manured with Super only.

Try 28-30 lbs. SULPHATE OF POTASH per Acre with your Super, and watch the result.

STASSFURT POTASH MANURES are obtainable from all Manure Manufacturers and Dealers.

Pamphlets and Scientific Information Gratis from

The Agricultural Offices of **THE POTASH SYNDICATE,**

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Tubular Cream Separators

We offer a CHALLENGE to ALL CREAM SEPARATORS in South Australia for CLEAN SKIMMING, EASY RUNNING, and DURABILITY.

£10, We are prepared to give **£10** to any Charitable Institution in South Australia if the "Tubular" is beaten.

The only FIRST PRIZE given in South Austrolia in 1907 for Cream Separators was awarded to the "TUBULAR," against all-comers.

FREE TRIAL with every machine. ALLOWANCE made for old machines.

Cash or Liberal Terms.

SOLE AGENTS—

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HIGHEST PRICES GIVEN FOR ALL FARM AND DAIRY PRODUCE, IF CONSIGNED TO US.

Fry's Pack Three Cocoas.

HOMŒOPATHIC

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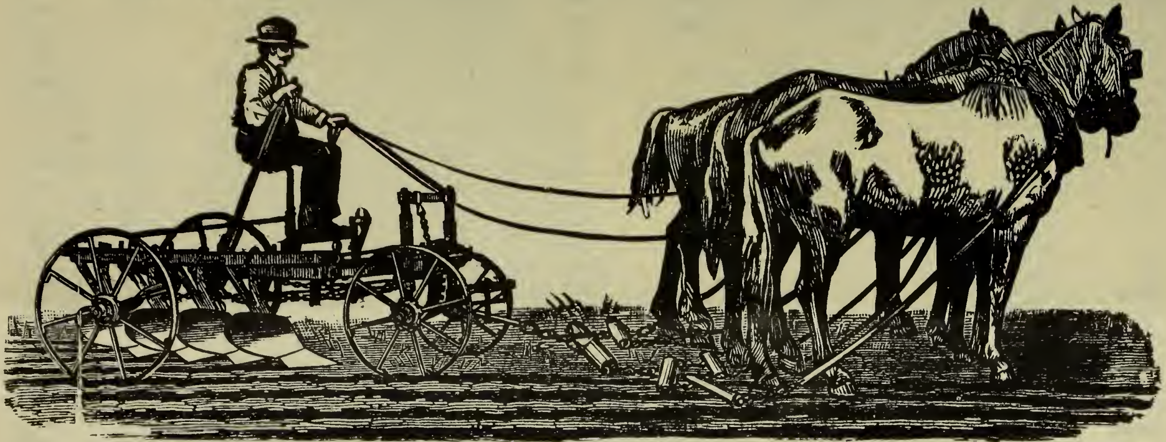
Have You Tried Them?

Ploughing Made Pleasure By using

SHEARER'S Patent Stump-Jump PLOUGHS



EXTRA STRONG PLOUGH.

Made in Three Weights Standard, Light, or Extra Strong, and from two to Six Furrows.

Also, CULTIVATOR PLOUGHS Eight to Twelve Furrows.

Fitted with New Patent Foot and Share and "Patent Lifting Device" and Concave Mouldboards. Thousands of these ploughs are in use, and are all giving the greatest satisfaction.

Farmers who handle them say that they are a pleasure to plough with on account of the ease with which they are adjusted either walking or riding, the good work they do, and the lightness of their draught.

EVERY PART of our ploughs is INTERCHANGEABLE, each being made to template. All the working parts are accurately turned and fitted by skilled artisans, consequently there is nothing sloppy about these ploughs, and the best spring steel is used in building them.

We are Makers of the now Famous **Patent Wrought Steel Plough and Cultivator Shares** Stocked by all Leading Merchants

BEWARE OF IMITATIONS.

J. & D. SHEARER, MANNUM; also KILKENNY, near Adelaide, SOUTH AUSTRALIA.

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If not locally represented, write for particulars and prices.

Wallaroo Super

(36-38$^{0}/_{0}$)

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Obtainable from

Australasian Implement Co.,
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Larger Crops

Have been grown by farmers in the semi-arid districts of America by the use of the

Campbell Sub-Packer,

and there is no reason why the same result should not be obtained in South Australia.

Larger Profits

Are what you want, and if by sub-packing the yield can be increased by even a few bushels, the cost of the machine and labour will be worth while.

Sub-packing the soil produces more moisture in the soil to aid in carrying the growing crop over long dry periods.

Experiments conducted at Hammond by the Department of Agriculture resulted in an increased yield of 2 to 3 bushels on soil which was sub-packed after ploughing.

Write us for particulars of the **CAMPBELL Sub-Packer.**

NORMAN & CO., **Bank Street, Adelaide**

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"SIMPLEX" PORTABLE BUILDINGS

MANUFACTURED SOLELY BY THE

LION TIMBER MILLS

(RICHARD HONEY).

Suitable for Mining, Engineering, Station, and Farm Buildings, and Domestic uses generally. These Buildings have no equal for simplicity of Erection and Portability.

Just think of one room being erected by one man in one hour; and four rooms in one day; and being occupied on the day of delivery. Can be put up and taken down like a bedstead.

No skilled Labour necessary.

NO MORTICES. NO TENONS. NO NAILS.

Only Coach Screws and Interlocking Joints employed.

Printed Drawings and Instructions furnished for guidance in erection.

Roofs, Walls, Floors, Doors, and Windows supplied ready painted in three-feet ft.) Panels. Doors and Windows already hung to Frames, and Fitted with Suitable Hardware.

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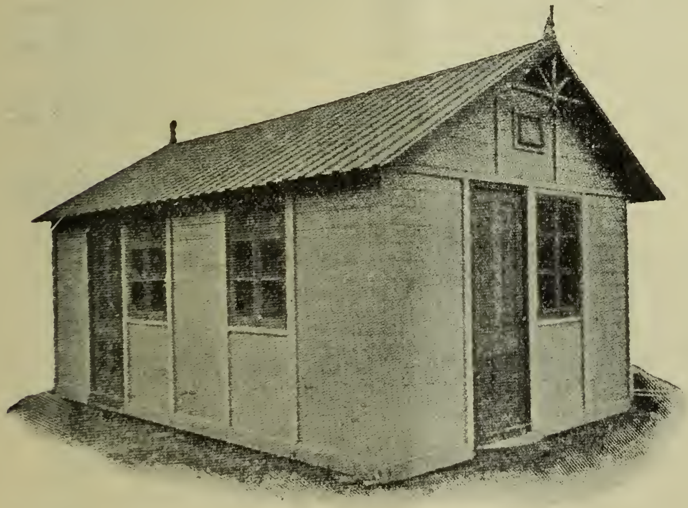
PATENT FOLDING SPRING SLEEPING-BUNKS, for Camping purposes, supplied when necessary, also Drop Tables and suitable Furniture.

Buildings painted inside and out. Sample Building on View at our Adelaide Yard.

MAKE A SPECIAL NOTE OF THIS—

Ninety per cent. (90%) saved in labour of erection!

Just the thing for people settling on the land!



Roofs Covered with **Ruberoid**

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Franklin Street, Adelaide;
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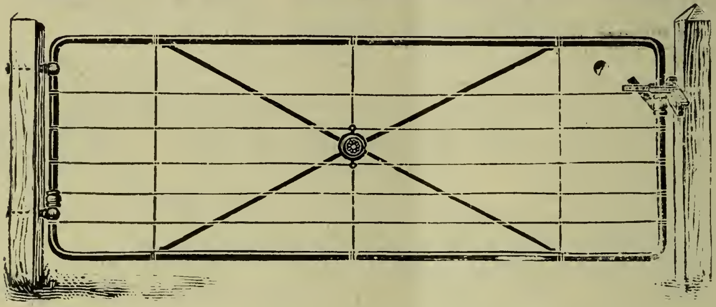

BEST
CHEAP FIELD GATE
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Stronger Quality Field Gates also manufactured. Prices on Application.

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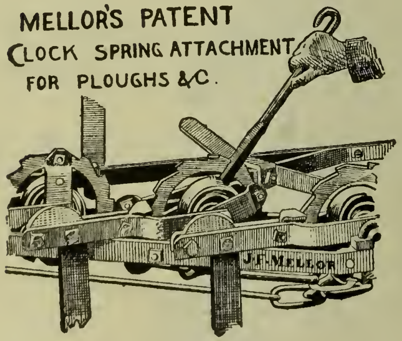
Makers of Dairy Utensils, Cream Cans, Sheep and Pig Troughing, Tanks, Wheel- and Water-barrows, etc., etc.

It's no Cocky's Yarn.



3 HORSES
and
2 PONIES
worked a 10-furrow

Patent CLOCKSPRING SKIM PLOUGH

for Mr. C. FARROW, of Wool Bay, Y.P.

The Plough gave no trouble whatever. As level work as was ever seen.

Mr. J. RIDDIFORD, who drove it, says it is the best implement for turning fallow, and lightest draught he ever used. Cannot be beaten for stones. The cleanest fallow around.

Mellor's Patent Clockspring Ploughs have No Draught Bridles.

Springs easily wound to required tension, according to nature of ground. Each jumper is independent. No jar on horses. Jumps better than old style, and draught about 25 per cent. lighter. Takes ground quickly, and turns a good furrow.

IMPORTANT. The Clockspring Ploughs are now being fitted with **Release Action. Impossible to hang on stumps. Draught lighter than ever.** Best Patent ever placed on a Plough. **A REAL MONEY SAVER.** A Rush of Orders has set in, so write **NOW.**

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CLARENCE H. SMITH,

Agricultural Implement Manufacturer,

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A "SMITH" 12-furrow S.J. Cultivating Plough turning back fallow on the Farm of Mr. E. Ebsary, Wagin, W.A.

"SMITH" PLOUGHS have **NEVER BEEN BEATEN** at any **FIELD TRIAL** held under the auspices of a recognized **AGRICULTURAL SOCIETY.**

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FOR THE

NEW "ELECTRIC-WELDED"

Plough, Lead, and Body Chain.

Absolutely the best Chain on the Market.

The following is the test of $\frac{1}{4}$-inch Chain by Lloyd's Proving-House. Broke at 2 tons 7 cwts. 2 qrs. in the steel.

The Breaking Strain applied under the British Government Contracts for $\frac{1}{4}$-inch. Ordinary welded Cable Chain is only 1 ton 10 cwts.

Every Pair Guaranteed and replaced free if broken under fair conditions of service.

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"Fairplay" Shifting Draft Plough and Leading Hames.

The Best in the World. Ask your Saddler for them.

If unobtainable, apply to HOLDEN & FROST direct.

Metters' All-steel Wind Motors.

Have proved without a doubt they are cheaper, stronger, and more serviceable than any other.

Write for
PRICED CATALOGUE
Relating to all Irrigation
Work to

METTERS LIMITED,
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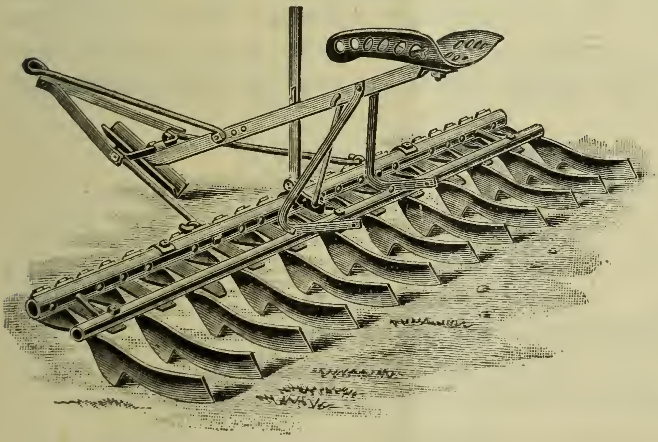
ADELAIDE.
Also Sydney and Perth.



THE "ACME" HARROW.

Clod Crusher
and Leveller.

For Preparing
A Perfect
Seed Bed.

The "Acme" Harrow is the best general purpose tool for preparing all kinds of soil for the seed.

It cuts, crushes, turns, smooths, and levels in one operation. It doesn't drag the buried trash to the surface, either, but chops it and leaves it buried. Light in draught.

Now is the time to write us.

NORMAN & CO., Bank Street,
Adelaide.

GEORGE WILLS & CO.

(Or their Agents throughout the Country)

SUPPLY

Fertilizers of all Descriptions

UNITED ALKALI CO.'S ENGLISH.
Adelaide Chemical Co.'s "TOP" Brands.
Wallaroo Phosphate Co.'s Brands.

BEST QUALITY DRY AND FREE-RUNNING SUPERPHOSPHATE TO GO THROUGH DRILLS.

CONCENTRATED SUPERS, THOMAS PHOSPHATE POWDER, BONEDUST, BONE and POTASH MANURES.

Anchor Fencing, Fencing Droppers and Standards, "Wheel" Brand Special Temper Wire (will not stretch), Ordinary Wire (Black and Galvanized), Barbed Wire, Wire Netting, Netting Fasteners, etc.

GALVANIZED IRON
("Blackwall" 1st Quality and "Key" Brands).

Cornsacks, Woolpacks, Branbags, Strychnine, Murton's Sheep Dip, "Slayo" Rabbit Poison, Rabbit Traps, Cartridges, Calf and Lamb Feeders.

Hoop Iron and Steel, Oils, Paints, Cookson's White Lead, Binder and Sewing Twines, Blue Twine a Speciality, Nobel Hamburg Explosives, Cement, etc.

Genasco Ready Roofing.

The Cheapest and Best Roofing Material in the Market.
The Cheapest and Best Floor Covering in the Market.
Cheaper and More Easily Fixed than Galvanized Iron.
Does Not Dry Out, become Brittle, and Crack.

SEED WHEAT.

PARAFIELD.

Quantities of the following Wheats are for Sale at the above Experimental Station:—

Early Wheats in Small Quantities only.

Cumberland
Nhill

Midseason Wheats.

Triumph (small quantity)
Schneider (small quantity)
Federation
Yandilla King
Cleveland
John Brown
Marshall's No. 3.

Strong Flour Wheats.

Bobs
Special Comeback
Pratt's Comeback
Jonathan

Hay Wheats.

Tarragon
Nonpareil
Zealand
Tardent's Blue
Majestic.

All the above have been carefully selected and graded. Price per bushel, **5s.** on trucks Salisbury.

Small quantities of specially selected and graded Seed of Bobs, Special Comeback, Pratt's Comeback, and Jonathan can be supplied at **7s. 6d.** per bushel. As several enquiries have already been received, those desirous of obtaining Seed of the above varieties should apply at once to

THE DIRECTOR OF AGRICULTURE,
PARAFIELD, SALISBURY.

SEED WHEAT.

KYBYBOLITE.

For the South-Eastern District, Seed Wheat of the following varieties can be supplied from the above Experimental Farm:—

FEDERATION
GALLANT
MAJESTIC
BAROOTA WONDER
WILKINSON'S PROLIFIC
NHILL.

Most of these were grown from Seed supplied from Parafield last year, and those wishing to have Seed for this season should apply at once to

THE MANAGER,
EXPERIMENTAL FARM, KYBYBOLITE.

Price, **4s. 3d.** per bushel on trucks Kybybolite Siding.

No matter how much grass available.

Messrs. S. Richards & Co., Narrandera, write :—

"We have demonstrated its (Sunlight Oil Cake) powers by using it on seventeen of our own horses.

"With other Fodder we give them each 2½ lb. of Sunlight Oil Cake per day, divided into three Meals. We find this has the effect of

cleansing them from worms ;
it keeps them in splendid condition,
brightens their coat,

and assists their digestive power in forcing away a portion of the sand which all horses seem to delight in consuming. So far as we are concerned, no matter how much grass there is available in the future we intend to give all our stock the same quantity of Sunlight Oil Cake as we have been doing in the past. We might mention that this letter is unsolicited."

SUNLIGHT OIL CAKE has a higher feeding unit value than bran, pollard, or maize, and it has more than double the feeding unit value of chaff.

SUNLIGHT OIL CAKE is a food concentrated to such a point that a little will be more satisfying than a larger quantity of common fodder.

As SUNLIGHT OIL CAKE increases its bulk by about six times when moisture is added, it is a safer plan to give it to horses in a mash with a handful of salt added, and mixed with other foods. A little at first crumbled in the hand and mixed with the dry chaff will get the animal accustomed to it.

For further particulars

"Sunlight Oil Cake: How to use it,"

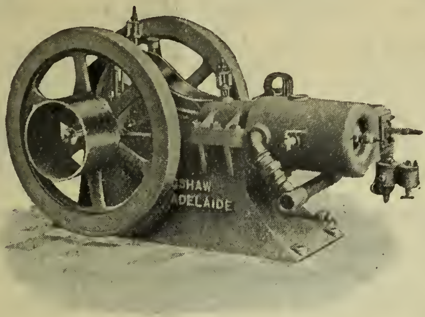
write to LEVER BROTHERS LIMITED, 24 Dept., Sydney.

SUNLIGHT OIL CAKE

For Keeping Horses in Good Condition.

The Farmers' Engine.

The "BAGSHAW" Petrol Engine has been specially designed to suit the requirements of S.A. Farmers.



It will drive a No. 4 "BAGSHAW" Cutter, and cut 20 to 30 cwt. per hour; also Winnower, Saw, Grinder, Sheep Shears, Pump, etc.

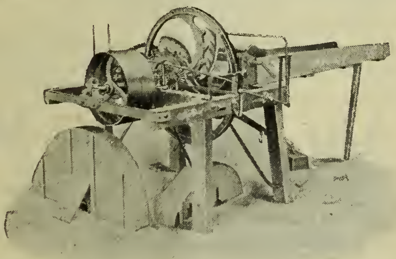
Don't Buy an Engine before seeing Bagshaw's Booklet. Free for the asking.

GENUINE

"Bagshaw" Chaffcutters.

The Outcome of Half a Century's Experience in Chaffcutter Manufacture.

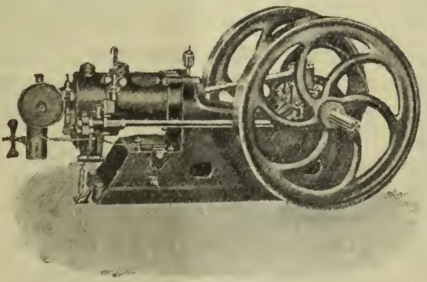
Over 90 per cent. of the Chaff cut in S.A. is cut by "BAGSHAW" CUTTERS.
The Bagshaw guarantee stands behind every Machine turned out.



These Machines can be fitted with Elevators of any kind, Screens, Baggers, etc., and are made Portable, Semi-portable, or Combined with other Machines.
Send for a Free Catalogue.

The "Allan" Oil Engine.

Twelve years in use, and not a single Engine removed for being unequal to guarantee, or unfit for the work undertaken.
A unique record.



Water Jacket cleaned without removing any working parts of Engine.
Special Safety Oil-feed, giving reduced consumption.

Don't Buy another Engine and afterwards wish you had bought an "Allan." See the "Allan" before buying. The more thorough the comparison, the better chance we have of selling you.

J. S. BAGSHAW & SONS, LIMITED,
ELIZABETH STREET, ADELAIDE

TOP BRAND

TRADE MARK

GRASS MANURE.

It pays handsomely to use this on pasture lands. Try it, and you will be astonished how much better the feed will be. You can carry more stock and they will do much better on land dressed with our special GRASS MANURE.

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R. BURNS CUMING, Managing Director,
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OFFER NEW SEEDS OF

Phalaris commutata
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Trifolium subterraneum
Trifolium Incarnatum (Crimson Clover)
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Sainfoin
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Thousand-Headed Kale
Seed Wheat (best sorts)
Beardless Medeah
Tares or Vetches

Hackett's Economic Smut Dressing

A Convenient and Effectual Remedy against Smut, 8d packet.
Costs One Penny per bushel.

SEEDSMEN,
URSERYMEN, ETC.

73, Rundle Street, Adelaide, S.A.

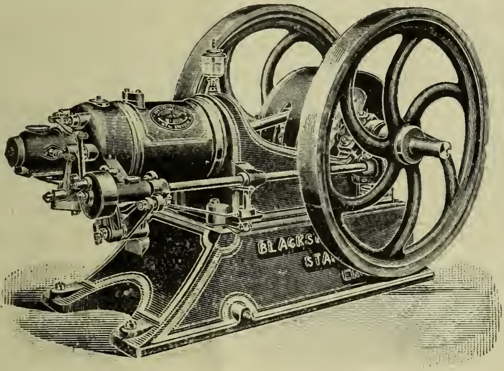
CLUTTERBUCK BROS.

Are Sole Agents in South Australia for

The BLACKSTONE Oil-engine

which has successfully solved the problem of a cheap, simple, and efficient motive-power, and embodies the Latest Improvements in Oil-engines.

Many hundreds in use in South Australia on farms, in chaff-mills, shearing-sheds, and all places where a cheap and effective driving-power is required.



Simple.

Efficient.

Economical.

Reliable.

No lamp needed when working.

Stationary and Portable.

At the latest Engine Trials, held under the auspices of The Highland and Agricultural Society of Scotland, The Blackstone gave the best results.

The Premier Gas-engine and The Mond and Mersey Producer Gas Coy.,

Sizes from 25 to 12,000 b.h.p.

The Wolseley Sheep-shearing Machine,

the Pioneer of sheep-shearing by machinery, still leads.

Has beaten all others in open competition. The number sold largely exceeds all other makes combined. Contracts undertaken to supply complete Shearing plants.

The Massey-Harris

British-built Farm Implements. World-famous on their merits.

The Massey-Harris Binder, Harvester, Drill, Mowers, Rakes, Cultivators, Plows, and all kinds of Farming Implements.

Artesian-boring.

We undertake contracts to bore for water to any depth. Have complete Steam, Oil, and Hand-boring Plants, and keep an efficient Staff of Experts for this work.

Full particulars on application:

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Hamley Bridge Implement Factory

J. G. TRAEGER, Proprietor.

NOTE THIS.—The "Giant" Cultivator has Patent Adjustable Tynes which can be shifted (so as to work correctly) if injured, and not leave a BONE in your Cultivating. No Patches Missed.

ALSO—All Tynes Swing on Pivots, and the Draught is directly on the Tyne, so that there is no fear of them sticking when pushed back, and is a Free Jumper, jumping over anything in moderation, and have two equalizers, so that each half of the Tynes works independently, viz., the Draught thus giving it more relief than any other device.

Maker of Patent "Giant" Stump-jump Cultivator.

Acknowledged by hundreds to be the most up-to-date Implement on the market.

Made in 9, 11, 13, 15, and 17 Tynes.

Made of Best Steel throughout. Very Light of Draught.

Scores of Testimonials from Farmers who have used them. Pronounced by many to be the best Implement they have ever used. Proof of its ability is the wonderful increase in the output each year. This Implement is known all over the Commonwealth as a real **"CLINKER."**

A Few Testimonials.

[Copy from L. O'LOUGHLIN, Esq., M.P., who purchased four Cultivators ("Giant Pattern) last season.]

Your Cultivators gave every satisfaction.—Yours sincerely, L. O'LOUGHLIN.

[Copy of Letter from D. FRENCH.]

I have finished Cultivating my Fallow with the New "Giant" Cultivator I got from you this season, and am perfectly satisfied with it. As I have had 25 years' experience amongst Stump-jump Implements, I think your "Giant" Cultivator one of the best I ever worked, both for lightness of draught and strength. I can do fifteen acres a day without hurting the horses, and it will face anything in reason you like to put it to, and if your Ploughs are as good as your Cultivators, I mean to have one later on. Yours faithfully, D. FRENCH.

To Mr. J. G. Traeger.—Dear Sir.—The 15-Tyne "Giant" Cultivator which I purchased from you has given every satisfaction, working all kinds of ground thoroughly. It has worked two seasons, and done about 1,000 acres. Yours truly, J. FORREST.

If you require a Tip-Top S.J. CULTIVATOR, don't fail to let me know.
Price-lists, etc., on application. Terms can be arranged.

NOTE THE ADDRESS

J. G. TRAEGER, Hamley Bridge, S.A.

By Installing a Telephone System

of your own you can have prompt communication with nearest town relations, friends, doctor, agent, etc.

UNBEHAUN & JOHNSTONE

are erecting a lot of private systems in the country, and solicit your enquiries.

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Telephones
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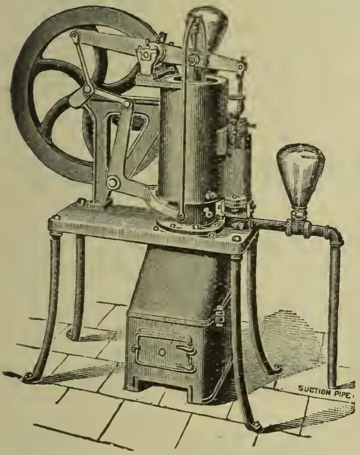

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For STATION, FARM, or DAIRY, are the MOST ECONOMICAL, RELIABLE, AND SIMPLE Machines on Earth.

NO Skilled Mechanic Required.

Over 35,000 in Daily Use all over the world.

An investment of £25 16s. will secure a machine capable of supplying a large establishment or hotel with ample and constant water service.

Full Stocks kept on hand.

Sea Transport Paid to Adelaide.

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(Registered).

THE GREAT MEDICINE FOR THE TREATMENT OF

"Dry Bible."

Sold in 1-lb. Packets at 4s., post free, 4s. 9d., from

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Balaklava, South Anstralia.

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BICKFORD & SONS,
LIMITED,
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Write to Factory for Pamphlet and Testimonials.

Burford's Oils

For all Classes of Machinery and Engines.

Special

"Hub" Brand Harvesting Oil.
Binder Oil. Separator Oil.

Refiners, Blenders, and Importers of the Finest Russian Oils.

W. H. Burford & Sons, Ltd.,
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BURFORD'S

"Magic" Egg Preserver.

"The simplest and most effective preservative for eggs is Burford's "Magic" Egg Preserver."

EGGS WILL KEEP FOR TWELVE MONTHS.

Directions.—To One Part of "Magic" Egg Preserver add Six Parts of Water and stir well. Keep the eggs covered with the Preserver, and in a cool place.

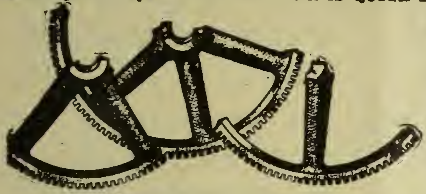
ASK YOUR GROCER TO PROCURE FOR YOU.

In Half Gallon, One Gallon, and Four Gallon Tins.

WELDARINE.

INSURE AGAINST SERIOUS LOSS THROUGH A BREAKDOWN!

Everybody who uses Tools or Machinery has something broken occasionally. The Farmer in the midst of his harvest, loses a part of his crop because he has to wait for repairs; the Manufacturer loses hundreds of pounds, while his machinery lies idle, for a part that costs only a few shillings to repair. WELDARINE IS QUITE EASY TO USE.



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WELDARINE IS GUARANTEED.. TO WELD CAST IRON.

Large Set complete 25s; by post 26s 6d.
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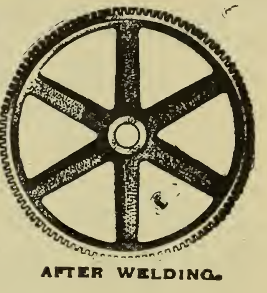
Full instructions with every Set.



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Sole Agents for South Australia:
JOHN REID & SONS, LTD.,
Gresham Street, Adelaide.

WILL MEND CAST IRON.

☞ AND IF YOU WANT YOUR REPAIRS EXECUTED AT A MINIMUM COST,

Send them to the Weldarine Experts.

THE TRADE CYCLE BUILDING COY

82a, FLINDERS STREET, ADELAIDE,
NEXT TO WALLIS, ELECTROPLATER.

WILL COST YOU ONLY SHILLINGS & SAVE YOU MANY POUNDS.

WE GUARANTEE ABSOLUTE SATISFACTION.

Campbell's Patent "Cocktail" Twin Harrows.

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THE Journal contains information of an official character relating to the Agricultural Lands, Stock, and Produce Export Departments. Illustrated articles and paragraphs by Government experts dealing with all branches of agriculture, horticulture, viticulture, pastoral matters, dairying, stock diseases, poultry, etc., are published regularly.

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L. O'LOUGHLIN,

MINISTER OF AGRICULTURE.

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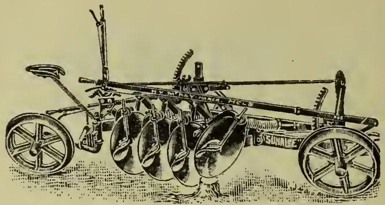

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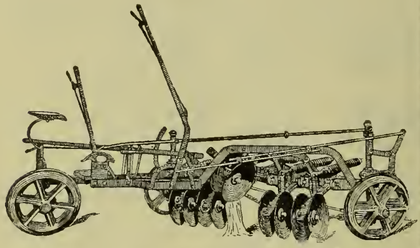

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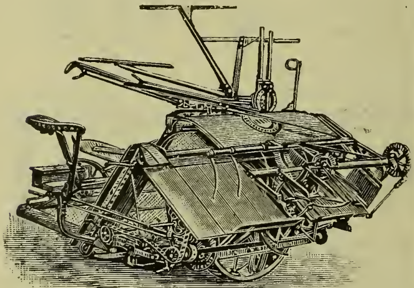

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For heavy Hay harvests it is the best.

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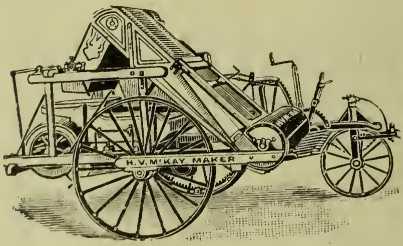
Lightness of Draught a prominent feature.

This machine embodies more mechanical good points than any other make of Binder on sale in Australia.



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Does not waste or crack the grain.

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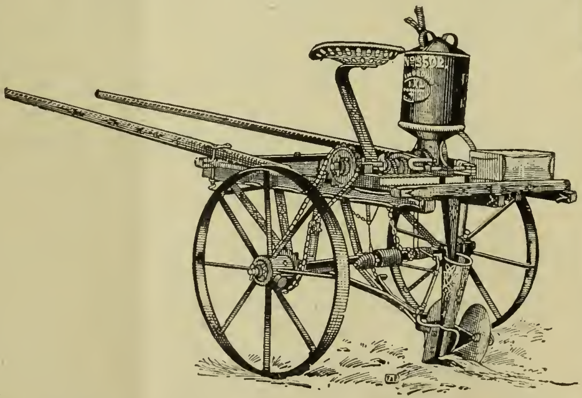

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AGRICULTURAL PUBLICATIONS.

The following publications have been issued by the Department, and are available for distribution at prices mentioned:—

Vinegrowers' Manual, by A. Sutherland, 6d.; posted, 7d.

Reports of Conferences of Australasian Fruitgrowers held at Brisbane and Wellington, 1s. each, or 1s. 3d. if posted.

Journal of Department of Agriculture of South Australia, 1s. per annum, in advance; 3d. per copy.

Any of the following Bulletins and Leaflets may be obtained by sending a penny stamp for postage:—

Agricultural Miscellaneous: Notes on South Australian Milling Wheats; Effect of Formalin and Bluestone on the Germination of Seed-wheat; Milling Characteristics of Australian Wheats; Semi-arid America—Its Climate Compared with that of South Australia; Agricultural College, Roseworthy—Harvest Reports; Agricultural College, Roseworthy—Reports on Permanent Experiment Field; Value and Aims of Plant Pathology; Rust-resistant Wheats; Reports on Agricultural Experiments; Noxious Weeds; The South Australian Wheat Yield, season 1907-8; Improvement of Cereals; Roseworthy Agricultural; Dry-farming in America.

Chemistry and Soils: Soil Surveys; Available Plant Food in Soil; Reclamation of Land.

Horticulture—Select List of Fruit-trees; Preserving, Canning, and Drying Fruits; Fruit-preserving for Domestic Supplies; The Lemon in Sicily; Notes on the Olive; Defects in Export Apples; Apple Mussel Scale; Curculio Beetle; Valuable Grape for Export; Cider-making; Some Notes on Almonds; Production of Early Tomatoes; When to Apply Bordeaux Mixture; Fertilization of Orchard Lands; Fruit Flies; Fruit-maggot-fly Pests; The Codlin Moth; Fruit-drying for Beginners

Stock: Suggestions to Enquirers *re* Stock Complaints; Anthrax; Influenza and Strangles inHorses; Stomach and Bowel Disorders of the Horse; Pig-breeding and Bacon-curing; The Branding of Stock; Preparation of Small Clips for Market.

Poultry: Chicken-pox and Roup in Poultry.

Dairying: Milk-testing with Babcock Tester; The Dairy Cow; Taints and Flavours in Dairy Produce; Milk- and Butter-production; Milking of Cows; List of Dairy Factories; Experiments in the Hand-feeding of Cows; Instructions for Milk and Cream Suppliers.

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Farmers can secure best results by selling their Lambs through me, as I am always in a position to treat for the entire flock.

Fresh Fruit.

Apples and Pears either purchased outright or consigned on account of growers. Highest prices guaranteed

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Horses—Paltridge's Bazaar every Wednesday, at 2 o'clock.

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HAMLEY BRIDGE—4th Tuesday.
MAITLAND - 2nd Friday.
MURRAY BRIDGE—1st Monday.
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Sales undertaken in any part of the State.

All Stock assigned to us will receive our personal attention.

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RECLAIMED SWAMP LANDS AND ADJOINING HIGH LANDS.

Hundreds of Burdett and Seymour.

These Lands are now open to application under Perpetual Leases under Acts 830 of 1903 and 953 of 1908, until 5 p.m. on TUESDAY, APRIL 20, 1909.

Full particulars in *Government Gazette*, or obtainable, with plans, from the Surveyor-General, to whom all applications must be forwarded.

CENTRAL DISTRICT.

Lands in the Hundreds of Adelaide, Andrews, Ayers, Bonney, Bower, Bright, Burdett, Clinton, Coneybeer, Cotton, Dalrymple, Dudley, Eba, Encounter Bay, Everard, Finniss, Goolwa, Hall, Hallett, Koolywurtie, Kuitpo, Kulpara, Macclesfield, Malcolm, Melville, Menzies, Mundoora, Nangkita, Noarlunga, Onkaparinga, Para Wirra, Paringa, Peake, Pinnaroo, Price, Redhill, Ridley, Schomburgk, Seymour, Talunga, Tickera, Tiparra, Wallaroo, and Warrenben will be gazetted open to application this month for allotment by the Land Board. Particulars will be published in the *Government Gazette*, and will also be obtainable from the Surveyor-General.

Official List of Lands Open.

The attention of intending applicants for Land is directed to the Official List of Lands open, which may be seen at the principal Post Offices, and copies obtained at the Surveyor-General's Office. The list shows the areas, localities, prices, etc., of the Sections available, and the conditions under which they may be applied for.

L. O'LOUGHLIN, *Commissioner of Crown Lands.*

PRODUCE EXPORT DEPARTMENT.

Scale of Charges to be Paid to the Department.

Produce	Treatment, &c.	Extra Storage.
Lamb	0.4d. per lb., including handling, freezing, 4 weeks' storage, and shipping	1d. per ccs. per week or any portion thereof.
Mutton	0.35d. " " " 4 " "	Do. do.
Butter	3½d. per box, including handling, freezing, 7 days' storage, and shipping	1½d. per box do.
Fruit—Apples, pears, oranges	1½d. per case " cooling 7 " "	1d. per case do.
Rabbits	1s. 6d. per export crate " 3 weeks' "	1½d. per crate do.
Hares	1½d. per hare " 4 " "	1½d. per crate do.
Pork	0.55d. per lb. " 4 " "	1d. per ccs. do.
Poultry	Ducks, 8d. per hd.; Chicks, 6d. per hd.; which is a consolidated ratio, covering all shipping and selling charges. Geese and Turkeys by special arrangement	
Poultry, for storage only	3d. per crate (not exceeding 2ft.), including handling and cold storage for 7 days 1d. each fowls and ducks, 2d. turkeys and geese (uncrated), including handling and cold storage for 4 weeks, or any portion thereof	1½d. per crate do.
Eggs—For shipment	3½ per dozen, which is a consolidated charge, covering all shipping and selling charges	
For storage only	3d. per case for first week for eggs in shell packed in cases containing 25 dozen	2d. per case do.
Eggs in pulp	3d. per case (not exceeding 2ft.) for first week	2d. per case do.
Cheese	3d. per cwt., including handling and cool storage for 7 days	2d. per cwt. do.
Bacon	2d. per side " " " 7 days	2d. per side do.
General storage	Beef, 8s. per body Lamb and mutton, 6d. per ccs. Pork and veal, 1s. per ccs. } Including handling and cold storage for 4 weeks or any portion thereof. Joints of meat and fish, 2/6 per cwt.	
BUTTER FACTORY— Charges for treatment of cream	1d. per lb. for Chilling, Churning, and Printing. 5 per cent. Commission for selling, etc., etc. 4d. per can cartage to and from Factory.	

Wharfage, at the rate of 1s. 6d. per ton measurement, will be charged on all produce shipped over the Department's wharf.

Storage unenumerated will be specially arranged for.

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Are Made in Six Different Styles.

Farmers having ROOTS or STONES to raise, or any heavy lifting to do, are requested to write for particulars to

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Fat Stock sold every week at the Adelaide Market.

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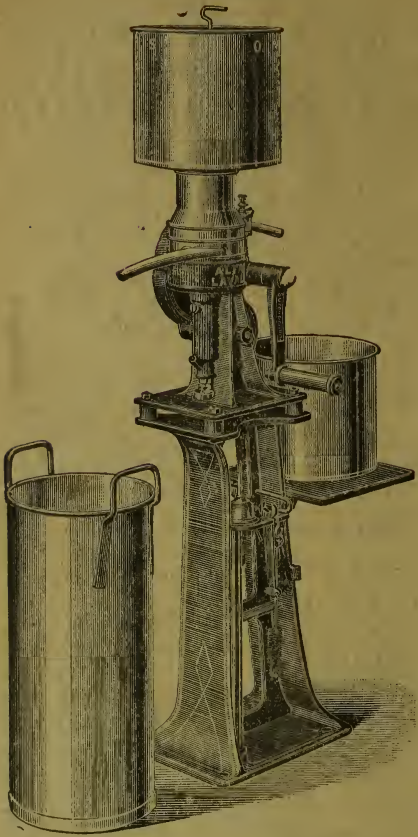
Consign WOOL AND GRAIN to the Company's Warehouses, Port Adelaide;
SHEEP, CATTLE, SHEEPSKINS, HIDES, ETC., to Adelaide.



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Just because you can't SEE the fat on the skim milk PROVES NOTHING. It can be proved to YOUR satisfaction that the **New Type Alfa Laval** will take out more fat than any other machine.

A CASH ALLOWANCE made for your present Separator if you buy a NEW TYPE ALFA LAVAL.

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